

## ANALYSIS

### INTRODUCTION

This section of the report identifies and analyzes issues regarding the performance of Connecticut's hospitals and health care system. The purpose is to discuss the forces driving the performance of the state's hospitals; why several facilities are experiencing financial difficulties; the efficiency and "value" of Connecticut's hospital care; the prospects for improved performance in 2000 and beyond; and the overall strengths and weaknesses of Connecticut's hospital and health care system. The chapter concludes by summarizing the major findings of this section and providing policy recommendations to improve Connecticut's system of hospitals.

### PERFORMANCE DRIVERS AND ISSUES

In the early stage of this study, OHCA staff met with a small group of hospital executives to identify the major forces that are influencing hospitals nationwide and in Connecticut. These forces are discussed in an earlier section of this report. The site visits to each hospital, focus groups, and data analysis conducted for this report reaffirmed the importance of these issues, and identified others that affect the performance of Connecticut's hospitals. These variables affect operating revenue, operating expenses, non-operating income, working capital and cash flow, and overall capital structure and investment in either a positive or negative manner. The performance drivers evaluated during the study are identified in Exhibit 14 and discussed in greater detail below.

### HOSPITAL UTILIZATION AND SERVICES

Hospital utilization and services directly affect hospital financial performance.

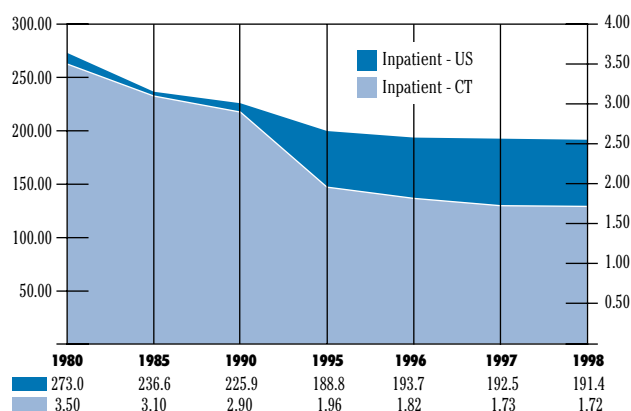
Hospitals with high occupancy, a favorable payer mix (that is, dominated by private commercial payment and having minimal Medicaid or uncompensated care), and increasing volume generally perform well. Hospitals that provide many unprofitable services and that experience volume declines are more challenged.

### Trends in Inpatient Volume

Growth of managed care and implementation of the DRG payment system for Medicare dramatically altered hospital utilization during the 1980s and 1990s. DRGs, which reimburse hospitals on a per-discharge basis, have provided hospitals with incentives to shorten hospital stays. Managed care companies closely monitor and attempt to control enrollee utilization. At the same time, medical technologies and medical practice have continued to evolve, allowing patient care to move from inpatient to outpatient and non-hospital settings and shortening inpatient stays.

From 1980 to 1995, admissions fell by 14 percent across the U.S. and by 24 percent in Connecticut, and stabilized thereafter. As shown in Exhibit 16, because inpatient lengths of stay also fell during this period, the decline in patient days was even

**Exhibit 15: Inpatient Day Trends:  
US vs. CT 1980-1998 (in millions)**



Source: American Hospital Association, Hospital Statistics

## Exhibit 14: Hospital Performance Drivers

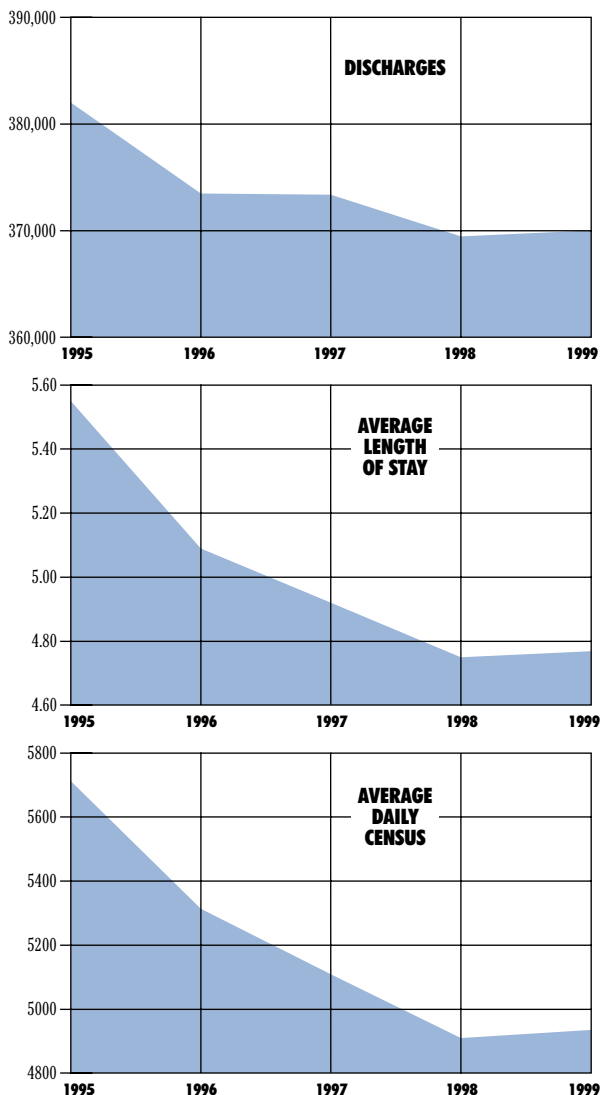
Performance Drivers	Discussion
Hospital Utilization and Services <ul style="list-style-type: none"> <li>◆ Inpatient Volume</li> <li>◆ Outpatient Services</li> <li>◆ Health Insurance Benefits</li> <li>◆ Hospital Formation and Closure</li> <li>◆ Behavioral Health Programs</li> <li>◆ Community Benefit Services</li> </ul>	Hospital utilization is affected by demographics (number and age of service area population), changes in health insurance benefits such as growth of managed care, hospital service capacity, marketing and market share, and area health status. Increasing volume generally helps performance, since hospitals have fixed costs that are more easily spread with higher volume. Many community benefit services are not profitable, but address important health care needs.
Government and Commercial Payment <ul style="list-style-type: none"> <li>◆ Commercial Payment and the Deregulation of Hospital Rates</li> <li>◆ Balanced Budget Act on Connecticut's Hospitals</li> <li>◆ Medicaid Reimbursement</li> <li>◆ Connecticut's Uncompensated Care Program</li> </ul>	Public and private reimbursement levels are important drivers of hospital performance. Federal and state payment policy significantly affects hospital "bottom lines," as do commercial payments that result from negotiations with health insurers and managed care organizations. The Uncompensated Care Program distributes funds from hospitals with relatively low charity care and bad debts to those with more substantial uncompensated care.
Hospital Operating Costs <ul style="list-style-type: none"> <li>◆ Growing Nursing Shortage</li> <li>◆ Medical Technology and Supplies Costs</li> <li>◆ Pharmaceutical Expenditures</li> <li>◆ Cost Containment and Patient Care Redesign Initiatives</li> <li>◆ Medical Education and Research</li> <li>◆ Other Cost Drivers</li> </ul>	Hospitals have been able to contain cost growth by benchmarking their operations, instituting group purchasing, and careful budgeting. However, cost growth appears to be accelerating due to a growing shortage of nurses and other allied health professionals, new pharmaceuticals and medical devices, utilities, and other costs. Connecticut has a relatively high commitment to graduate medical education as well, which is associated with higher hospital cost.
Competition <ul style="list-style-type: none"> <li>◆ Hospital Competition</li> <li>◆ Freestanding Centers</li> </ul>	Competition between hospitals and freestanding diagnostic and treatment centers affects hospital volume, managed care rates, and operating costs (since hospitals also compete for staff). Hospitals invest in programs to increase market share as well.
Integrated Delivery System Strategies <ul style="list-style-type: none"> <li>◆ IDS Structures and Rationale</li> <li>◆ Hospital Affiliates</li> </ul>	To gain market leverage, many Connecticut hospitals formed or participate in Integrated Delivery Systems. These strategies have had mixed success.
Local Demographics and Economy <ul style="list-style-type: none"> <li>◆ Local Economy on Hospitals</li> <li>◆ Connecticut's Demographics</li> </ul>	Local demographics and the strength of the local economy also affect hospital performance. Wealthy communities provide philanthropic support. Aging leads to higher demand.
Information Technology <ul style="list-style-type: none"> <li>◆ Hospital Systems Needs</li> <li>◆ Y2K and HIPAA</li> </ul>	Hospitals have invested less in information systems than other industries. New systems have the potential to improve quality. HIPAA compliance may cost hospitals more than Y2K.
Federal and State Hospital Regulation <ul style="list-style-type: none"> <li>◆ Connecticut's CON Laws</li> <li>◆ Other Regulations affecting Performance</li> </ul>	Hospital health and safety regulations affect hospital cost, and the State's CON process affects the competitive landscape. Periodic reviews of costs and benefits of regulations can help assure they remain cost effective and up to date.
Hospital Management and Leadership <ul style="list-style-type: none"> <li>◆ Effective Management</li> <li>◆ Medical Staff Relationships</li> </ul>	While many performance drivers are environmental, hospital management responses are critical to success. Effective medical staff relationships are among the factors that distinguish successful hospitals.
Role of Non-Operating Income <ul style="list-style-type: none"> <li>◆ Investment Returns</li> <li>◆ Philanthropy</li> </ul>	Capital markets have provided substantial returns for hospitals with endowment and other reserves. If future market returns fall, total margins will be harder to generate. Philanthropy has been very meaningful for some of the state's hospitals.
Capital Expenditures and Capital Formation <ul style="list-style-type: none"> <li>◆ Funds for Hospital Projects</li> <li>◆ Capital Needs of Connecticut's Hospitals</li> <li>◆ Hospital Working Capital</li> </ul>	Hospitals are capital-intensive entities. They require funds from operations, debt, investment gains, and philanthropy to maintain physical plants, and acquire equipment and new technologies. Most sources of funds are facing greater constraints, particularly debt and funds from operations. This likely will affect future growth.

greater. Exhibit 15 presents total inpatient days in acute care hospitals in the United States and Connecticut from 1980 through 1998.

Utilization of Connecticut hospitals during the last five fiscal years reflects similar trends. The following graphs illustrate the overall trends for inpatient discharges, average length of stay, and average daily census for all of Connecticut's acute care hospitals (including those that closed) from 1995 to 1999.

As the graphs show, inpatient utilization between 1998 and 1999 increased for the first time in many years. Discharges, patient days, average length of stay, and

**Exhibit 16: Connecticut Acute Care Data**



Source: OHCA Inpatient Discharge Database

average daily census all increased by approximately 1 percent. The site visit process indicated that volumes for many of Connecticut's hospitals continued to increase in fiscal year 2000 as well. There are several possible explanations for the recent increases.

- ◆ Employers and employees are electing to join less restrictive types of managed care such as PPO (preferred provider organization) and POS (Point of Service) models, and many HMOs are loosening up on some types of restrictions (e.g., gatekeeper model).<sup>1</sup>
- ◆ Connecticut's population is aging, and fewer seniors are joining Medicare HMOs, leading to higher utilization of health care services. Several managed care organizations are exiting the Medicare HMO market, leaving beneficiaries either to join other plans or return to the fee-for-service system.
- ◆ The current strong economy and robust labor market have led to relatively high levels of insurance coverage and benefits as employers seek to recruit and retain workers.
- ◆ Many states are adopting "prudent layperson" rules for approving and reimbursing emergency room (ER) care. Connecticut adopted such a standard as well. These rules may be leading to higher emergency room utilization. ERs are a primary entry route for hospital admissions.

### Trends in Outpatient Services

As inpatient services declined, outpatient volume increased for most Connecticut and U.S. hospitals. This shift from inpatient to outpatient care has been challenging for hospitals, because reimbursement

rates for outpatient services generally are not as generous, and because outpatient care is frequently highly competitive. Physicians and freestanding diagnostic and treatment centers compete with hospitals for a wide range of services. The following chart portrays total emergency

room (ER) visits for all of Connecticut's 31 acute care hospitals from 1995 through 1999.

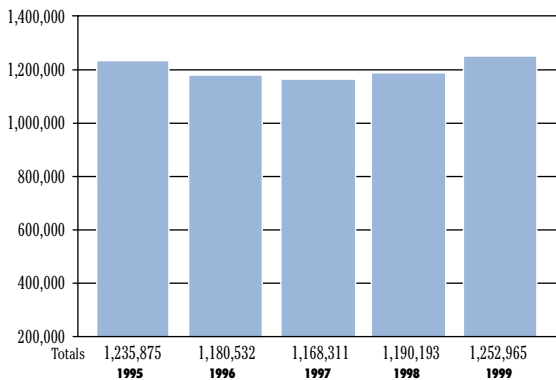
ER visits fell by 5.5 percent between 1995 and 1997, and then increased 7.2 percent between 1997 and 1999. During the decrease, 17 of 31 hospitals lost

ER visit volume, many by significant percentages. Between 1997 and 1999, only four hospitals have experienced ER visit volume losses. During all of these years, approximately 15 percent of ER visits led to hospital admissions, an important source of inpatient volume.

The ratio of outpatient to total gross charges is another indicator of outpatient activity in hospitals. In 1997, outpatient charges accounted for

32.5 percent of total charges. By 1999, outpatient charges accounted for almost 36 percent of total charges.

**Exhibit 17: Total ER Visits**

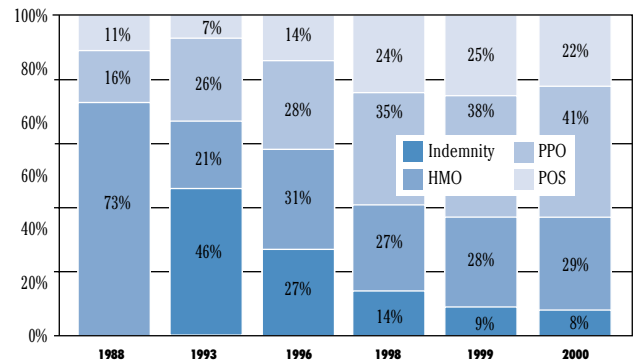


Source: OHCA Inpatient Discharge Database

## Changes in Health Insurance Benefits

The changes in inpatient utilization over the past two decades on both a national level and in Connecticut are attributable in large part to changes in health insurance benefits. Health care consumers and employers generally choose among four principal types of health plans: health maintenance organization (HMO), point-of-service (POS), preferred provider organization (PPO), and traditional fee-for-service indemnity plans (FFS). Since 1988, FFS insurance has virtually disappeared, while most employees now have some type of managed care plan. With fewer oversight and utilization management mechanisms, FFS arrangements are associated with higher utilization than managed care. And, within managed care, PPO and POS options tend to have fewer restrictions than HMOs.

**Exhibit 19: Insurance Plan Type: U.S. Market Share Trends**

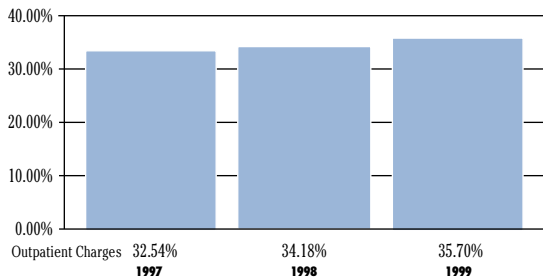


Source: Henry J. Kaiser Family Foundation, *Employer Health Benefits 2000*.

As Exhibit 19 depicts, the recent strong economy and disaffection with HMO restrictions has led to stable POS and HMO market share and noticeable growth in PPO plans.

Connecticut trends are similar. Since 1995, private insurance has accounted for about one-third of the total patient days in Connecticut hospitals. Managed care

**Exhibit 18: Gross Outpatient Charges as a Percentage of Total Charges**



Source: OHCA Hospital Budget System

(HMO or PPO) patient days grew from 40 percent of these days in 1995 to 60 percent by 1999, while traditional indemnity care declined.

In response to customer requests, HMO plans have become less restrictive as well. UnitedHealth Group and Aetna, for instance, have significantly reduced prior authorization requirements. If these trends continue, utilization of health care services will likely continue to rise.

### **Hospital Formation and Closure**

At the start of the 1990s Connecticut had 36 acute care hospitals. The mergers and closures that have occurred in this decade have affected the performance of the other hospitals in the state, and thus represent performance drivers. The following examples demonstrate these effects.

Stamford Health System acquired St. Joseph Medical Center in 1998 and converted the acute care hospital into an outpatient facility, Strawberry Hill Health Services. Through this transition, Stamford realized an increase in area inpatient market share and higher volumes. Average daily census increased from 176 patients in 1997 to 224 for fiscal year 1999. Total operating revenue for the hospital increased by about 20 percent during this period.

When Connecticut Children's Medical Center was formed, Hartford Hospital, St. Francis, Newington Children's, and John Dempsey all transferred patient care programs to the new facility. Hartford and St. Francis contributed neonatal intensive care unit beds, while John Dempsey transferred its pediatric oncology program. This meant also transferring revenue from those services to the new hospital, which was particularly significant for John Dempsey. During the site visit, John Dempsey attributed some of its financial

difficulties to the transition of this profitable program.

### **Behavioral Health Problems**

In 1999, Connecticut's acute care hospitals had an aggregate average daily census of 400 psychiatric patients. This number has increased recently, from 378 in 1998. During site visits, a majority of hospitals indicated that lack of capacity in community based care settings was contributing to increased demand for acute care psychiatric beds. While increasing volume is generally positive for hospital performance, growth in psychiatry programs has been problematic for most Connecticut hospitals due to low reimbursement rates both from Medicaid and private sector payers. Other issues raised by hospitals' management include the following:

- ◆ Lack of adolescent bed capacity;
- ◆ Increased utilization of expensive emergency rooms for behavioral health care;
- ◆ Lack of coordination between the CON process for acute care hospitals and the State's mental health administration;
- ◆ A moratorium on closing acute care psychiatric programs.

Psychiatry average daily census at ten of the state's hospitals exceeded 10 percent of total average daily census in fiscal year 1999: Bridgeport, Charlotte Hungerford, Day Kimball, John Dempsey, Griffin, Hartford, Johnson Memorial, Manchester Memorial, Sharon, and Waterbury. Hartford Hospital's program had a census of 67 patients, or 17 percent of the statewide total. Many of these hospitals indicated that they lose money on their acute care psychiatric programs.

The Governor's Blue Ribbon Commission on Mental Health recently released a report acknowledging that the State of Connecticut is facing a behavioral health care crisis. While exact numbers are not available, the Commission estimates that for every person receiving mental health services, there is another person who needs care but is not getting adequate or appropriate services.<sup>2</sup> The Commission examined the issues and made recommendations for improving mental health care in Connecticut. The Commission's report suggested that the Governor establish a mental health policy council to carry forward the work of the Blue Ribbon Commission.

### **Community Benefit Services**

Connecticut's hospitals all are non-profit organizations with clear commitments to serving their communities. Many have developed a wide range of programs that meet important community needs and supplement state and local public health services. These programs generally create losses for hospitals, and are threatened when budget pressures mount. The following describes some of programs offered, but is not a comprehensive list of programs offered in the state:

- ◆ Conducting annual health needs assessments for the community;
- ◆ Offering educational classes and free health screenings;
- ◆ Participating in or sponsoring health fairs;
- ◆ Organizing support groups for cancer patients and other groups;
- ◆ Sponsoring outreach programs aimed at decreasing unemployment, teenage pregnancy and high school drop out rates;

- ◆ Providing outreach nursing services to patients with chronic disease; and
- ◆ Sponsoring meals on wheels services for the elderly or chronically ill.

Many of these hospital-sponsored programs are at risk of closing during periods of financial distress because the services often are not profitable.

### **GOVERNMENT AND COMMERCIAL PAYMENT**

Hospital revenue is generated from multiple sources, including the federal Medicare program, Medicaid (which is administered by the State, in collaboration with the federal government which provides 50 percent matching funds in Connecticut), commercial insurance companies (HMOs, PPOs, Point of Service, and indemnity plans), individuals who pay for health care out of pocket, and other operating revenues (such as gift shops, cafeterias, and others). About 6.25 percent of hospital expenses in Connecticut also are "uncompensated," meaning that patients are unwilling or unable to pay and as a result hospitals incur bad debt or charity care costs.<sup>3</sup> A discussion of the basic features of various payment mechanisms is available in "Connecticut Hospitals: Historical Perspectives and Current Forces" which appears earlier in this report.

Exhibit 20 provides a profile of net patient revenue collected by Connecticut's hospitals from these various sources.<sup>4</sup>

Approximately 44 percent of hospital net revenue is received from Medicare, 46 percent from commercial payers, 7.5 percent from Medicaid, and 3 percent from all other patient care payment sources. These proportions vary widely for individual hospitals, depending on local demographics, competitive factors, the mix of patient services offered, and actual payment rates received.



Exhibit 21 presents another view of the mix of patient care by payer source in Connecticut. In this exhibit, estimated operating costs are allocated to each payer source (based on gross charges generated from each payer). The ratio of payment to cost for each payer category also is calculated. This exhibit shows that while Medicaid represents 7.6 percent of net patient revenue in 1999, Medicaid patients generated 10.5 percent of hospital costs. The payment to cost ratio for Medicaid thus was approximately 0.68, and hospitals lost an estimated \$140 million serving Medicaid patients during the year (\$295 million in net revenue minus \$432 million in estimated costs). These losses were substantially recovered through gains generated from serving commercially-insured patients. Beginning in fiscal year 2000, the elimination of the gross earnings tax also will provide meaningful resources to help offset Medicaid losses.

A number of significant changes to federal and state payment policies in the 1990s have affected payment levels for Connecticut's hospitals. Payment to cost ratios fell for the Medicare and commercial payer categories between 1997 and 1999. Medicare fell from 0.99 to 0.92 and commercial from 1.16 to 1.13.

#### Exhibit 20: Profile of Net Patient Revenue for Connecticut's Hospitals

\$ in Millions	FY 1997	FY 1998	FY 1999
Net Patient Revenue			
Medicare	\$1,708	\$1,713	\$1,702
Commercial payers	1,675	1,707	1,797
Medicaid	282	259	295
Other	114	127	112
<b>Total</b>	<b>3,778</b>	<b>3,807</b>	<b>3,906</b>
Medicare	45.2%	45.0%	43.6%
Commercial payers	44.3%	44.8%	46.0%
Medicaid	7.5%	6.8%	7.6%
Other	3.0%	3.3%	2.9%

Source: OHCA Hospital Budget System

#### Exhibit 21: Aggregate Estimated Costs and Payment to Cost Ratios for Connecticut's Hospitals, by Payer

\$ in Millions	FY 1997	FY 1998	FY 1999
Estimated Costs			
Medicare	\$1,727	\$1,774	\$1,851
Commercial payers	1,444	1,494	1,597
Medicaid	418	394	432
Other	213	237	226
<b>Total</b>	<b>3,802</b>	<b>3,899</b>	<b>4,107</b>
Medicare	45.4%	45.5%	45.1%
Commercial payers	38.0%	38.3%	38.9%
Medicaid	11.0%	10.1%	10.5%
Other	5.6%	6.1%	5.5%
Payment to Cost Ratios			
Medicare	0.99	0.97	0.92
Commercial payers	1.16	1.14	1.13
Medicaid	0.67	0.66	0.68
Other	0.53	0.54	0.49

Source: OHCA Hospital Budget System

The following provides additional insights into these payment trends for Connecticut's hospitals.

#### Commercial Payment and the Deregulation of Hospital Rates

As previously demonstrated, the commercial payment to cost ratio for Connecticut hospitals has fallen from 1.16 to 1.13 between 1997 and 1999. Commercial payment to cost ratios in 1994 averaged above

1.25. Deregulation of hospital rates, changes in the type and mix of health care benefits, the local economy and availability of resources to fund commercial health insurance benefits, investor expectations of the managed care industry, and the relative success of hospitals as they negotiate contracts with managed care companies all have affected commercial payment levels.

In addition to payment levels, timeliness of payment is also an issue. During site visits and focus groups conducted for this study, numerous hospitals expressed concerns about the timeliness of payment for claims sent to managed care organizations. According to data submitted to the Connecticut Health and Educational Facilities Authority (CHEFA), accounts receivable balances (amounts that have been billed but not yet paid) have increased dramatically in the last three years—from an average of 53 days of revenue outstanding to more than 61 days. Accounts receivable balances increased by \$125 million statewide (or about 25 percent, up from \$526 million reported at the end of 1997), negatively affecting the cash flow of the state's hospitals. Recent data show that this trend has not abated, and accounts receivable balances have continued to increase in fiscal year 2000.

The State of Connecticut Insurance Department sponsored a working group to discuss prompt payment, and in August it issued Bulletin HC-56 clarifying to insurers Connecticut's "prompt payment law" (CGS 38a-816(15) as amended by Public Act 99-284).

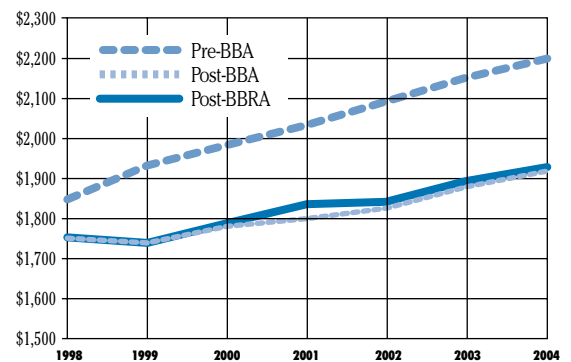
#### **Impact of the Balanced Budget Act and Other Medicare Payment Policies on Connecticut's Hospitals**

The Balanced Budget Act of 1997 (BBA) affected virtually all Medicare payment provisions, and reduced expected hospital reimbursement significantly compared to prior policy. The BBA will result in reduced Medicare payments to U.S. hospitals by more than \$71 billion from 1998 to 2002.<sup>5</sup> Payments to Connecticut hospitals were projected to be about \$1 billion less over this period, and as shown below, about \$260 million lower on an annual basis by fiscal year 2002. The Balanced Budget Refinement Act (BBRA) restored

only a small amount of the funding reduction.

Some Connecticut hospitals have been more affected by the reduction in Medicare payment than others. Five hospitals reported Medicare patient days exceeding 60 percent of their total patient days, including: Bradley, Sharon, St. Raphael, Milford, and Johnson. Only Milford, located in a relatively affluent community, has sufficiently high commercial payment levels to offset declining Medicare payments. Based on Lewin's BBA analysis, Connecticut teaching and rural hospitals also have experienced more significant revenue reductions than their non-teaching and urban counterparts due to the impact of the BBA on funding for Graduate Medical Education. There are approximately 510,000 Medicare

**Exhibit 22: Medicare Revenue Pre-BBA and Post-BBA and BBRA for Connecticut's Hospitals**



**Source:** The Lewin Group analysis of the Balanced Budget Act of 1997 and the Balanced Budget Refinement Act, prepared for the American Hospital Association.

beneficiaries in Connecticut, and 103,000 (20.2 percent) of these were enrolled in managed care plans in October 2000.<sup>6</sup> All other Medicare patients receive their health care through the fee-for-service Medicare program, and hospitals providing this care are reimbursed based on the inpatient Prospective Payment System (PPS), the new outpatient PPS, and other fee schedules established by the federal



government. Hospitals are paid for managed care patients directly by the managed care organization (MCO). Payment rates from the managed care organizations are based on contracts negotiated between the MCOs and the facilities, thus they are not determined by Medicare or otherwise guaranteed.

Many hospitals reported during the site visit process that Medicare managed care payments were highly problematic. These points were mentioned:

- ♦ While the Medicare fee-for-service program provides higher reimbursement for cases with higher resource requirements (such as expensive medical technologies), per diem payments received from Medicare managed care programs generally do not recognize these technology needs by providing higher reimbursement. The per-diem contracts thus do not always reimburse the hospitals for the technology needs of Medicare managed care patients.
- ♦ Many of the contracts established between MCOs and hospitals involved risk sharing. The MCOs receive a premium for each enrolled beneficiary from the federal government, and share a portion of this revenue on a per-capita basis with providers (hospitals and physicians). Providers are at risk if patient care costs exceed the per-capita payments. Many hospitals (and physicians) in Connecticut generated significant losses under these arrangements. Medicare managed care losses contributed to the financial problems experienced by many hospitals in 1999.

In the last few months, consistent with nationwide trends, the number of Medicare beneficiaries enrolled in managed care plans has decreased. Medicare managed care enrollment in Connecticut increased from 15,000 in December 1997 to 98,000 by June 1998 and 109,000 in October 1999. As of October 2000, this enrollment declined by 6,200.<sup>7</sup> Several MCOs are dropping or dramatically changing their managed care programs for seniors, and enrollment is expected to decrease further unless more funding is allocated.

Most hospitals believe the managed care enrollment decline should be an overall net positive for Medicare payment, as fee-for-service Medicare DRG payments are higher than Medicare managed care.

#### **Below-Cost Medicaid Reimbursement**

Hospital Medicaid payments in Connecticut are among the lowest in the nation. In 1998, hospitals were reimbursed approximately 70 percent of the cost to treat Medicaid patients. This ratio is the third lowest in the United States.<sup>8</sup>

Data analyzed for this study confirm this finding. In 1999, the statewide Medicaid payment to cost ratio was 0.68. Total Medicaid payments in 1999 were \$295 million, and estimated cost was \$432 million. This equates to statewide Medicaid losses of \$137 million in the 1999 fiscal year. This loss is significant when compared to the total operating loss reported by Connecticut's hospitals of \$38.4 million during 1999.

The low Medicaid payment affects certain hospitals disproportionately. Approximately two-thirds of the state's Medicaid payments are made to nine hospitals: Yale-New Haven, St. Francis, Hartford, Connecticut Children's, Bridgeport, St. Raphael, St. Mary's, John Dempsey, and Waterbury.

While the average expenditure per Medicaid beneficiary in Connecticut is comparable to other states, Connecticut allocates a significantly higher proportion of its Medicaid budget to nursing facilities.<sup>9</sup> As shown below, the average Connecticut expenditure per Medicaid beneficiary was \$5,957 in 1998, only slightly below the \$6,025 New England average.

However, because Connecticut has a higher proportion of enrollees who are in aged eligibility aid codes, and because expenditures for these consumers are higher than the New England average,

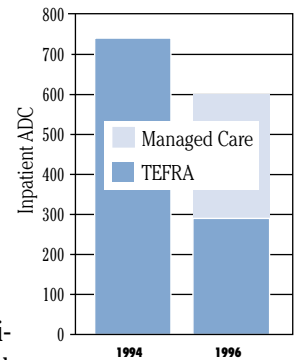
**Exhibit 23**

Expenditures per Enrollee	Connecticut	Other N.E.	Difference
"Aged" Enrollees	\$18,910	\$16,327	\$2,533
All Other Enrollees	3,919	4,660	(761)
All	5,957	6,025	(68)
<b>Enrollees (thousands)</b>	398	5,393	
<b>Mix of Enrollees</b>			
"Aged" Enrollees	13.6%	11.9%	1.7%
All Other Enrollees	86.4%	88.1%	-1.7%
<b>Total Expenditures (\$Billions)</b>			
"Aged" Enrollees	1.0	10.5	
All Other Enrollees	1.3	22.0	
All	2.4	32.5	
Aged/Total	43%	32%	

Connecticut's Medicaid budget devotes 43 percent of total expenditures to aged consumers, versus 32 percent in other New England states. The state also spends 36 percent of its Medicaid budget for nursing home services, versus 24 percent for the rest of New England.

The Medicaid program underwent a significant transformation after 1995, when all TANF<sup>10</sup> beneficiaries (primarily mothers and children) were transitioned into Medicaid managed care plans. As of June 30, 1999, 71 percent of Connecticut's

**Exhibit 24: Average Daily Census of Medical Patients**



322,181 Medicaid enrollees were in managed care.<sup>11</sup> As shown in Exhibit 24, approximately one-half of the Medicaid patient days now provided by Connecticut hospitals are reimbursed by managed care organizations under contract with the State. Non-managed care Medicaid services are reimbursed through fee-for-service payments. Inpatient care is reimbursed under a "TEFRA" (Tax Equity and Fiscal Responsibility Act) methodology. TEFRA payment is on a per-discharge basis, based on facility-specific costs per case in a "base year," which for most hospitals, was a fiscal year in the early 1990s.

The Lewin Group found that the TEFRA-based methodology for reimbursing fee-for-service inpatient care became increasingly problematic after implementation of Medicaid managed care. While TEFRA rates are adjusted for inflation, they are not adjusted for changes in patient acuity.

As TANF beneficiaries enrolled in managed care plans, the fee-for-service system became dominated by higher-cost disabled, mentally ill, and adult patients. These patients have higher acuity levels, requiring more procedures and longer stays. The average fee-for-service Medicaid inpatient case therefore was more costly, but payment rates remained the same. The acuity of patient care reimbursed under TEFRA thus increased dramatically, though the TEFRA payment system left payments per inpatient discharge essentially unchanged. The impact of this transition is demonstrated in Exhibit 25.

The total number of patient days that was reimbursed by TEFRA fell as TANF beneficiaries were enrolled in managed care plans. Length of stay for TEFRA Medicaid patients increased from 4.32 to 5.85 days between 1994 and 1998, a substantial increase of 35 percent. During this same period, overall average length of stay in Connecticut hospitals *fell* by over 10 percent. The changing mix of TEFRA Medicaid patients led to increased health care costs per case, from \$4,800 in 1994 to \$6,926 in 1998. These cost increases were not matched by commensurate increases in payments from the TEFRA system, leading to growing losses for the state's hospitals.

Relatively low Medicaid payment is becoming increasingly problematic for Connecticut's hospitals. When the State set reimbursement rates, commercial payment levels were established administratively at levels adequate to offset Medicaid underpayment. Now that the state has deregulated and commercial payments are established through competitive, market forces, Medicaid losses cannot easily be shifted to other payers.

### Connecticut's Uncompensated Care Program

The State established the Uncompensated Care Program to accomplish two principal objectives:

- ◆ To attract federal Disproportionate Share matching funds to help finance uncompensated health care costs in Connecticut; and
- ◆ To achieve a more equitable distribution of uncompensated care costs, such that hospitals with high charity care and bad debt levels (due to local environmental factors) receive financial assistance.

The program seeks to achieve these objectives by applying two taxes to hospital gross charges and net cash payments from non-government payers. Tax receipts then are matched with federal Medicaid funds, and the pooled resources are distributed to hospitals based on their reported uncompensated care costs (bad debt, charity care, and Medicaid shortfall). In 1999, total payments from the pool were capped by federal law at \$210 million.

Two types of taxes finance the program:

- ◆ The Gross Earnings Tax, which is assessed quarterly on adjusted gross charges (excluding Medicaid, Medicare, CHAMPUS, and HMO allowances). The "GET Tax"

generated approximately \$122 million in receipts in fiscal year 1999.

**Exhibit 25: Analysis of TEFRA Inpatient Utilization and Payment**

	1994	1995	1996	1997	1998
TEFRA patient days	270,581	244,322	181,737	126,347	112,591
Cost per day	\$1,111	\$1,107	\$1,154	\$1,104	\$1,184
	x	x	x	x	x
Length of stay	4.32	4.25	4.68	5.59	5.85
	=	=	=	=	=
Cost per case	\$4,800	\$4,705	\$5,401	\$6,171	\$6,926
Payment per case	\$3,798	\$4,025	\$4,403	\$4,800	\$4,877
Loss per case	(\$1,002)	(\$680)	(\$998)	(\$1,372)	(\$2,049)

**Source:** Lewin Group Analysis of Connecticut Medicaid Cost Reports.

- ♦ The Sales Tax, which is assessed monthly on cash received from non-governmental payers, generated approximately \$108 million in fiscal year 1999.

The Governor proposed and the General Assembly approved the repeal of the GET tax effective April 1, 2000. Repealing the GET tax provides significant budgetary relief for Connecticut's hospitals in fiscal year 2000. These benefits will continue into 2001, the first full year of the repeal's effect.

In fiscal year 1999, the Uncompensated Care Program redistributed significant funds among Connecticut's hospitals. Exhibit 26 depicts the redistribution of uncompensated care funds across hospitals. Each bar below represents one hospital's net contribution to the Uncompensated Care Program in 1999. Hospitals that paid more in taxes than they received in disproportionate share funding are recorded

in the top bars, while hospitals that received more funding than they paid in taxes are represented in the bottom portion of the exhibit.

Eight hospitals were net recipients of a collective \$28.3 million from the Uncompensated Care Program in 1999: St. Francis, St. Mary's, Hartford, Stamford, Bridgeport, Yale-New Haven, St. Vincent's, and Waterbury (in descending order of net funds received). The other 23 hospitals were net payers. Taxes paid

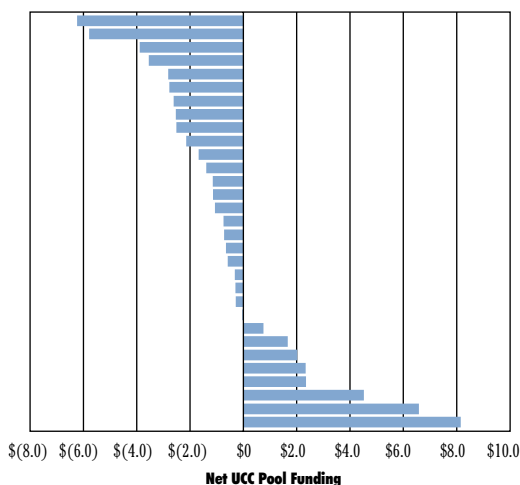
by Lawrence & Memorial, Greenwich, Backus, and Danbury each exceeded dis-

proportionate share fund allocations by more than \$3 million.

Hospitals and other stakeholders participating in the OHCA Hospital Study identified several issues with the Uncompensated Care Program, including the following.

- ♦ Several hospitals suggest that the formula (which leads to higher allocations of Disproportionate Share revenue if bad debts are higher) provides a disincentive for hospitals to collect bad debts. Hospitals with effective collection functions can be disadvantaged versus those with less effective efforts.
- ♦ The current Uncompensated Care Program, while addressing differences in uncompensated care costs across Connecticut's hospitals, does not provide resources for physicians who serve indigent health care consumers.
- ♦ The Uncompensated Care Program formula is somewhat problematic for hospitals with low commercial payment to cost ratios. As shown later in this chapter, lower commercial payments are associated with more highly competitive hospital markets in the state. For hospitals in these areas, commercial payment levels compared to cost are somewhat low, and the taxes applied to patient care revenue reduce the "yield" from these payers even further. Two hospitals can have the same amount of bad debt and charity care, while one is located in a less competitive area with more favorable commercial payment rates. The taxes paid to the Uncompensated Care Program thus are more challenging for hospitals in less favorable environments.

**Exhibit 26: Net UCC Program Funds (Paid) or received in FY 1999 in Millions of Dollars**



**Source:** Analysis provided to The Lewin Group by the Connecticut Hospital Association.

- ◆ Because the taxes apply only to services provided under an acute care hospital license, the program creates incentives to shift certain patient care services to non-hospital affiliates (e.g., ambulatory surgery, patient care diagnostics, and others).
- ◆ Several hospitals are concerned that their net payments into the Uncompensated Care Program provide subsidies to competitor facilities, which may use these resources to build competing programs.

With the repeal of the GET tax, the number of hospitals receiving net positive funding from the Uncompensated Care Program increases from 8 to 22, assuming that distributed Disproportionate Share funds remain at 1999 levels.

## HOSPITAL OPERATING COSTS

Hospital operating costs increased at relatively modest levels throughout the 1990s, but are showing signs of acceleration.<sup>12</sup> There are several categories of expenses that are growing most significantly, including nursing salaries, medical technology and supplies costs, pharmaceuticals, utilities costs, and others. As shown below, Connecticut hospitals also have greater than average commitments to medical education, which is associated with higher cost.

### Impact of the Nursing Shortage

Strong consensus exists within the state and the U.S. that the demand for nurses now exceeds the supply of these health care professionals, and that this growing challenge is likely to have implications for access, quality, capacity, and costs of care. While the total number of licensed nurses in Connecticut has remained stable and even increased over the past four years, hospitals uniformly report a growing

nursing shortage. Several explanations for this development were discussed during hospital site visits and focus groups.

- ◆ A significant percentage of the hospital nursing staff across Connecticut is approaching retirement, and the number of persons selecting nursing as a profession has fallen dramatically. A recent study in the *Journal of the American Medical Association* concludes that the registered nurse (R.N.) workforce will continue to age and could decline “nearly 20 percent below projected R.N. workforce requirements.”
- ◆ Enrollment in nursing schools is low, including at several of the state’s programs such as the University of Connecticut. Several hospitals closed their hospital-based nursing schools as well.
- ◆ Patient acuity levels have increased, leading to greater demands on nursing personnel.
- ◆ Nurses want improved working conditions. Twelve-hour shifts, staffing reductions, night duty, mandatory overtime, and other approaches implemented by many hospitals have led staff to leave the nursing profession and complicate recruiting efforts. Health care also has been receiving some negative press in the media, leaving fewer students interested in the profession.
- ◆ A number of off-shore nursing schools have closed. Immigration policies need to be updated if Federal policy is to encourage emigration to the United States.
- ◆ Connecticut’s unemployment rate currently is a relatively low 2.2 percent. The strong economy has affected hospital recruitment efforts.



Hospitals in Connecticut are competing with pharmaceutical and insurance companies for experienced nurses. These companies frequently offer better compensation packages and more flexible work schedules.

- ◆ Hospital margins have declined, making it more difficult to increase salaries and develop other responses to the shortage.

The nurse staffing shortages are most acute in highly specialized areas such as intensive care, psychiatric units, and oncology. These areas have particularly intense working conditions. When ICUs are short staffed, emergency room capacities are negatively impacted, and hospitals have at times been required to place the ERs on diversion as a result.

Connecticut's hospital executives all reported concern and uncertainty as to how they will continue to staff hospitals as the nursing shortage intensifies. The nursing shortage is increasing hospital costs, however, for the following reasons.

- ◆ Hospitals are competing with each other for nurses, both inexperienced and experienced. Signing and retention bonuses increasingly are being offered, leading to greater levels of turnover and reduced employee loyalty. Some hospitals indicated they have made two and three nursing salary adjustments in one year to match pay increases offered by competitors.
- ◆ Nursing vacancies create greater dependence on "agency" and "traveling" nurses. The salary differential between an employee and an agency nurse can range from 50 to 100 percent, with the highest differentials in critical care, operating rooms, and emergency departments.

- ◆ Creative nursing recruitment efforts such as recruiting nurses from the Philippines and the West Indies require arranging for temporary housing which is expensive and in short supply in most Connecticut neighborhoods.
- ◆ Hospitals have hired relatively inexperienced nurses and many now provide intensive on the job training. Not only do facilities incur higher salary costs, but they also have significantly expanded their nurse education and training budgets.

Many hospitals also are placing greater attention on retention strategies. Retention strategies include eliminating mandatory overtime, improving flexible scheduling, and creating incentives and bonus pools.

A broad discussion of the basic issues related to nursing workforce, and recommendations from a focus group on the topic, is available in "Connecticut Hospitals: Historical Perspectives and Current Forces," which appears earlier in this report.

### **Medical Technology and Supply Costs**

During site visits, Connecticut's hospitals were asked about types of expenditures that consistently have been exceeding budget expectations. Medical technology and supplies costs, pharmaceuticals, utilities, and nursing salaries were mentioned consistently as challenges to cost containment efforts. An earlier section of this report provides a general description of the changes in medical technology and pharmaceuticals overall, and how these changes impact hospitals.

Hospitals have clear incentives to provide the latest technologies. Physicians and patients demand the latest treatments, and offering the best care possible is consistent with maintaining high quality.

However, public and private payers are slow to reimburse the higher cost of these innovations. Several examples were offered by the state's hospitals, including:

- ♦ New cerebral oximeter monitors, which cost \$16,000 each. Vascular surgeons insist on access to this new technology.
- ♦ New implants and grafts, including donor veins, tendons, and bone parts are very expensive. These materials used in one knee replacement can cost \$24,000—far in excess of reimbursement rates.
- ♦ Continuously evolving stent and pacemaker technologies, which have dramatically advanced cardiac care but are expensive to implant.
- ♦ Nerve stimulators, pumps that administer pain medication, and Left Ventricle Assist Devices (LVADs) also were mentioned as highly beneficial, but expensive new technologies.

These advances improve patient quality of life, reduce the need for future hospitalizations or shorten lengths of stay, allow care to be provided in outpatient settings, and in many cases are cost effective for managed care organizations. Hospitals thus are incurring costs to acquire and provide access to these innovations, but because per-diem reimbursements are not adjusted for technology costs, hospitals frequently do not capture the economic benefits of these investments.

### **Pharmaceutical Expenditures**

In recent years, pharmaceutical products have become a major cost driver in the health care system and difficult for hospitals to forecast. While the great majority of pharmaceuticals are provided to patients through pharmacies and thus are not reflected in hospital costs, a growing

number of products are now prominent in hospital inpatient and outpatient care. For example, hospitals administer antibiotics, anesthetics, psychotropic drugs, blood therapies, chemotherapy agents, clot-dissolving agents, and pain management products. In virtually all of these categories, newly introduced products represent clear advances but also generate higher cost.

One example is Synagis™, a new antibiotic that combats serious lower respiratory tract disease caused by respiratory syncytial virus (RSV) in pediatric patients. This drug, introduced in 1998, is more expensive than the products it replaced, but offers many benefits to patients and is easier to administer. These cost increases are often unpredictable for hospitals.

Hospitals have established committees, typically led by physicians, to review pharmaceutical usage and purchases, and some have developed innovations to contain drug costs while providing effective access to new products, including dosing innovations and product substitutions. In spite of these innovations, most hospital managers believe that pharmaceutical costs will continue to increase at double-digit levels for the foreseeable future.

### **Cost Containment and Patient Care Redesign Initiatives**

Virtually all hospitals in Connecticut have engaged in patient care redesign initiatives intended to improve the efficiency of care. Hospitals are benchmarking their staffing levels to established norms, implementing “patient-centered care” staffing models, and introducing hospitalist physicians to improve care management.

Several facilities have implemented layoffs after conducting re-engineering studies to contain cost and improve financial viability.

Patient-centered care models generally involve placing registered nurse managers in charge of hospital patient care units. Non-physician clinical and non-clinical support staff report to the nurse managers. Non-licensed staff are trained in selected, basic patient care duties which they perform under supervision. This model helps to leverage the time of licensed staff while also remaining attentive to patient needs.

Hospitalist physicians are hired by hospitals or hospital affiliates to manage patient care on inpatient units, allowing other medical staff to improve their efficiency by concentrating time in office based settings. Hospitalists focus on supervising hospital care, on the appropriateness of lengths of stay, and on coordinating services with referring community physicians.

These cost containment and patient care redesign initiatives have helped Connecticut's hospitals manage their expenditures under reimbursement constraints.

### **Medical Education and Research**

As described by the 1999 OHCA Report, *An Analysis of Graduate Medical Education in Connecticut*, there are two medical schools in Connecticut, the University of Connecticut School of Medicine and Yale University School of Medicine. Approximately 1,545 interns and residents are present in 17 hospitals around the state. These residency programs are affiliated with the two Connecticut universities and with four out-of-state schools. A number of Connecticut's hospitals also sponsor clinical research programs that help advance knowledge and medical practice.

Teaching hospitals participating in the site visits indicated that medical education and research programs provide important

benefits to Connecticut. Quality of care is enhanced since residents require attending (supervising) physicians to maintain "state of the art" skills to pass on the latest knowledge. These programs also attract new physicians to the state and enhance the supply of medical talent as new graduates establish practices. Uninsured consumers receive patient care from outpatient clinics and hospitals where residents practice. Inpatients receive convenient physician care at night, improving the efficiency of community and attending practitioners. Clinical trials and research programs bring medical advances to Connecticut patients that otherwise would not be available. Medical education and research also attract federal funds and higher patient care reimbursement (from Medicare, Medicaid and SCHIP programs that recognize and reimburse direct and indirect medical education costs).

While these programs provide benefits to the quality and availability of care, medical education and research programs also are associated with higher cost. Connecticut has one of the highest concentrations of graduate medical education in the United States. Major teaching hospital costs are approximately 25 to 30 percent higher than community hospital costs after adjusting for wage and case mix differentials (Commonwealth Fund). The intense presence of medical education may account for Connecticut hospitals' high showing in quality of care provided to Medicare beneficiaries reported elsewhere in the chapter.

A commonly examined measure, the ratio of interns and residents to beds, was 0.232 for Connecticut (1,552 residents reported in 1997 Medicare Cost Reports divided by 6,687 beds). This ratio is third highest among U.S. states, behind New York and

Massachusetts (not including the District of Columbia, which is first). The U.S. average is 0.11. Medical education is a significant cost driver for the state's hospitals.

### **Other Cost Drivers**

Hospitals also are addressing the following cost issues:

- ◆ The higher price of oil has affected hospital utilities costs, which are running above budget.
- ◆ Several hospitals have changed their employee benefit policies to include more employee cost sharing for health care premiums and to adjust pension plans. Two hospitals changed their pensions from defined-benefit plans to defined-contribution plans, and have reported better financial results due to accumulated investment gains that now are available for operations. Many hospitals are seeking higher employee contributions towards health insurance costs, and have adjusted retiree health care benefits as well.

### **COMPETITION**

Hospitals compete with each other and also with freestanding diagnostic and treatment centers, many of which have been (and are being) established by physicians. Competition is a performance driver, because it affects operating costs and revenues in the following ways:

- ◆ To protect and enhance market share, hospitals invest in physician recruitment, new programs, and marketing and advertising. Competition thus affects investment and operating cost.
- ◆ When hospitals (or freestanding centers) compete successfully, market share gains increase their volume of

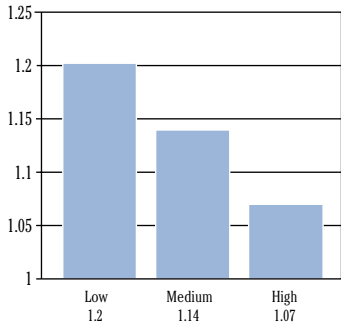
inpatient and outpatient care while decreasing volume for other organizations. As discussed above, volume declines for several Connecticut hospitals are associated with weaker financial performance. Many Connecticut hospitals cite examples of how freestanding centers have attracted revenue-generating services such as radiology, laboratory, and outpatient surgery away from the hospital setting.

- ◆ In highly competitive markets, managed care organizations are able to negotiate more effectively because alternative hospital capacity is readily available.
- ◆ Hospitals also compete for labor resources. If one hospital raises starting salaries or offers bonuses to attract nurses, for example, others must match these adjustments or risk an inadequate supply of needed staff.

To evaluate these effects, an analysis was done to correlate commercial payment levels with hospital competition in the state. When two or more hospitals serve the same geographic area, payers may be able to negotiate lower reimbursement rates. This would be reflected in lower commercial payment to cost ratios. For the analysis, urban areas with two or more competing hospitals were designated "highly competitive." Hospitals located in suburban areas within a five to ten mile radius of a competitive urban area were considered to experience a "medium" level of competition. Hospitals falling outside of these two categories were considered to have "low" competition. The following exhibit displays commercial payment to cost ratios for Connecticut's hospitals in these three categories.

Higher levels of hospital competition are associated with lower commercial payment to cost ratios and lower overall margins for the state's hospitals.

**Exhibit 27: Commercial Payment to Cost Ratios According to Level of Competition**



**Source:** OHCA Hospital Budget System

During site visits and focus groups, many hospitals indicated that competition from non-hospital providers was increasing. Physician incomes have been affected by government payment policies and by managed care, and many are sponsoring competing diagnostic and treatment facilities to earn facility fees. Hospitals are concerned about this development, and indicate that while they accept indigent patients, are required to treat all emergency room patients, and must comply with Certificate of Need laws, freestanding centers are not subjected to these requirements.

A complete discussion of competition among hospitals in Connecticut and on the development of integrated delivery systems, described below, can be found in the section of this report entitled "Connecticut Hospitals: Historical Perspective and Current Forces."

### INTEGRATED DELIVERY SYSTEM STRATEGIES

Many of Connecticut's hospitals implemented integrated delivery system strategies and structures during the last few years. The strategies were established based on generally accepted views regarding how the health care system would evolve and adopt risk-sharing between health insurers and hospitals and their medical staffs. Growth of public sector (Medicare and Medicaid) managed care and consolidation of health insurance companies were significant drivers of this vision for health care services delivery.

### Integrated Delivery Systems Structures and Rationale

The overall vision was that integrated delivery systems would include both horizontally integrated hospitals and vertically integrated programs to assure a comprehensive continuum of care for patients. Horizontal integration was necessary for providers to have negotiating leverage with managed care organizations. Vertical integration was necessary so that the systems would be able to provide directly the majority of health care services (including physician care) included in a typical insurance benefit package. Services provided directly would be easier to manage than those provided outside of a tightly controlled system.

Larger, tertiary hospitals also sought through these structures to protect their referrals to specialty services, which could be disrupted if smaller community hospitals and their medical staffs became aligned with a competing delivery system.

In Connecticut, several systems formed, including the Yale-New Haven, Hartford Hospital, St. Francis Hospital and Medical Center, Central Connecticut Health Alliance, and Eastern Connecticut Health Network systems. Several of these systems adopted this overall vision and developed systems and structures to manage risk and patient care consistent with the integrated delivery system model.

Unfortunately, some aspects of these initiatives failed to achieve the desired results. Many hospitals proved unable to manage insurance risk (under contract terms provided) and physician practice acquisition and management programs generated significant losses for sponsoring organizations.



## Hospital Affiliates

In part to implement the integrated delivery system vision, Connecticut's hospitals have established and operate a wide range of affiliate entities. These enterprises share the same parent corporation as their affiliated hospital, and include foundations, home health agencies, billing and collection agencies, real estate firms, other patient care programs including rehabilitation and skilled nursing, self-insurance and malpractice firms, and physician/hospital organizations (PHOs, established for joint managed care contracting).

Connecticut hospitals also have established affiliates for the following reasons:

- ◆ To provide focused governance and management on key programs, in particular fund-raising;
- ◆ To avoid violating regulations governing the corporate practice of medicine when developing or acquiring physician practices;
- ◆ To provide opportunities for entrepreneurial management to build programs and achieve a return on investment;
- ◆ To comply with federal and state tax requirements and thus place taxable activities in an appropriate corporate setting;
- ◆ To avoid hospital overhead, provider taxes, and accreditation requirements, which increase costs compared to freestanding centers; and
- ◆ To develop a continuum of care to serve community needs.

The state's hospitals transferred over \$50 million to support these affiliates in 1998 and 1999. Most hospitals lost money in these non-hospital corporations as well. More data from the parent corporations

of hospitals will be needed to better understand this issue.

## LOCAL DEMOGRAPHICS AND ECONOMY

The local economic environment and demographics of Connecticut communities also affect performance of the state's hospitals.

- ◆ Hospitals with significant numbers of poor residents in their service area have higher levels of uncompensated care and greater numbers of Medicaid patients, affecting their overall payer mix. Socioeconomic status also has been linked to health status, which in turn affects utilization patterns and the costs of care.
- ◆ These hospitals also are more likely to have developed community benefit services to supplement local public health initiatives. Most community benefit services are provided to meet area health care needs and are not profitable.
- ◆ The site visit process found that several of the wealthier communities in Connecticut had provided substantial philanthropic support for their local hospitals. These resources are not as available to organizations located in areas with lower income levels.
- ◆ Population growth and age affect utilization of hospital services. Connecticut's total population has grown more slowly than other parts of the United States, and has a higher proportion of elderly residents. From 1995 to 1999 Connecticut experienced 0.5 percent growth within the total population as well as within the elderly population. New England experienced 1.5 percent total growth, while the U.S. grew approximately 4.0 percent.

The following exhibit compares the elderly population in Connecticut to those in New England and the U.S. as a whole.

**Exhibit 28: Elderly Population Percentage: Connecticut, New England, & the U.S.**

	1995	1996	1997	1998	1999
CT % of Elderly	14.3%	14.4%	14.4%	14.3%	14.3%
NE % of Elderly	14.0%	14.0%	14.0%	14.0%	13.9%
US % of Elderly	12.8%	12.8%	12.8%	12.7%	12.7%

**Source:** *Population Estimates Program, Population Division, U.S. Census Bureau*

Connecticut has a higher percentage of elderly than both New England and the rest of the United States.

### INFORMATION TECHNOLOGY

Connecticut hospitals have made significant investments in information technology during the past three to five years. Y2K preparations consumed large portions of hospital capital budget allocations, and hospitals also have dedicated resources to expanding Internet capabilities and responding to clinical data needs. Most recent investments include systems that enable automated order entry, provide decision rules to decrease variation in patient care, and track reimbursement to ensure compliance with contracts.

Despite the recent investment in information technology, Connecticut's hospitals plan to continue allocating capital funds to maintain and enhance information system capabilities. The following issues were identified during the site visits as affecting the need for continued investment:

- ♦ **HIPAA.** Hospitals must upgrade systems to comply with regulatory requirements to ensure confidentiality of patient information and meet administrative simplification requirements for electronic transactions.

### ♦ **Integrated Delivery System**

**Development.** As hospitals continue to expand operations beyond the acute care setting and affiliate with other hospitals, information system requirements become more complex. Shared systems enable physicians to manage care across entities and also enable staff to integrate administrative functions.

- ♦ **Clinical Data Needs.** Expectations of improved service, increased quality, avoidance of medical (and medication) errors, and decreased costs are driving the need for additional clinical data.

- ♦ **Remote Access Capability.** Remote access to hospital information systems improves physician productivity and provides faster reporting of diagnostic results, and with telemedicine, can also dramatically improve quality of care.

- ♦ **Ambulatory Payment Classifications.** This recently implemented outpatient reimbursement system is leading hospitals to upgrade or install new information systems to assure compliance with new billing requirements.

- ♦ **Tracking Payments from Managed Care Organizations.** Hospitals are implementing systems to assure that payments received from managed care organizations are consistent with negotiated contract terms.

As systems are installed, hospitals are investing significant resources to train physicians and employees in their use. Compared to other industries, health care information system investments have been relatively low. Hospitals now consider information systems investments

critical to achieving additional cost savings and to advancing the quality of patient care.

An earlier section of this report, “Connecticut Hospitals: Historical Perspectives and Current Forces,” provides a detailed discussion of the issues of information technology and HIPAA as they affect hospitals.

### **FEDERAL AND STATE HOSPITAL REGULATION**

Participants in the OHCA hospital study commented that because Certificate of Need (CON) requirements apply only to hospitals, other non-hospital providers have competitive advantages. The CON process alerts potential competitors to the introduction of new technologies, and in some cases results in project denials for hospitals. Competitors such as free-standing medical resonance imaging (MRI) centers, eye surgery centers, ambulatory surgery centers, and other programs not sponsored under the license of an acute care hospital are not required to undergo this CON process.

Concerns also were expressed about the impact of CON laws on behavioral health. Many behavioral health programs are provided in outpatient settings that do not require CON approval. This makes it more difficult for the State to coordinate the capacity and provision of mental health services across inpatient and outpatient settings.

In spite of these issues, participants believe that CON requirements have several benefits for Connecticut’s health care system and consumers:

- ♦ Without CON laws, for-profit hospitals may become more prominent in the state. These hospitals might not have the same level of commitment to community services and to the

Medicaid and uninsured populations in the state.

- ♦ While CON laws have been repealed in several states, in Connecticut these requirements have contributed to not-for-profit health care. Some participants suggested that the laws be modified to reflect the current health care environment and improve their effectiveness in fostering cost effective provider capacity.
- ♦ In the absence of CON laws, study participants suggested that a wide variety of “new operators” could enter Connecticut, with an uncertain outcome for the quality and quantity of care to be provided.

Hospital staff also indicate that new state and federal regulatory requirements, such as prenatal HIV tests, required use of safety needles and gloves, mandatory hearing screening for newborns, and a new infant abduction prevention system are costly and are provided without additional compensation. Regulatory mandates often are imposed without recognizing the cost implications. Hospitals experience numerous inspections from federal, state, local, and private agencies (including the Joint Commission on Healthcare Organizations). These inspections frequently are viewed by many hospitals as duplicative and costly, but also as important to assuring that the process of hospital care is consistent with published standards.

A complete list of the regulations that hospitals must comply with, as well as a fuller description of the regulations that affect hospitals the most, can be found in the “Connecticut Hospitals: Historical Perspectives and Current Forces” section of this report.

## HOSPITAL MANAGEMENT AND LEADERSHIP

As in other industries, effective management is important to hospital performance. Hospital management teams develop and implement strategy and cost containment initiatives; establish important relationships with physicians, employees, and the State; monitor and seek to improve patient satisfaction; negotiate contracts with managed care organizations; and set the tone for competition among facilities.

Management mistakes can be problematic and can weaken hospitals, leading to a narrowing of competitive options for maintaining viability. Management is particularly important in Connecticut as the state recently moved from regulated to market-determined hospital reimbursement rates.

Several management factors are critical to success in today's health care environment. While many environmental variables are largely outside of management's direct control, such as area demographics, competition from other hospitals and freestanding centers, accelerating nursing and medical technology costs, and government payment policies, management teams can implement strategies to address these issues and maintain positive performance. Based on the site visits conducted during the summer of 2000 for this study, the following management characteristics are associated with successful performance.

### **1. Achieving favorable commercial reimbursement rates**

Hospitals with commercial payment to cost ratios well above 1.0 can offset Medicaid losses and reductions in Medicare payment resulting from the BBA of 1997. As shown later in this chapter, financially distressed hospitals have low commercial payment to cost ratios and are not able to recoup losses incurred

from other payers. Since Connecticut deregulated hospital rates, achieving favorable payment depends on maintaining market strength (so that managed care organizations have incentives to include the hospital in provider networks), providing high quality care valued by consumers, negotiating effectively with plans, and achieving alignment with medical staffs who often are affected by the contracts hospitals establish.

Achieving favorable commercial payment in the deregulated environment is challenging, given consolidation within the health insurance industry (such as Aetna and U.S. Healthcare) and the strength these plans can wield during negotiations. These companies represent employers and thus seek the most economical arrangements possible. During the site visits, several hospitals indicated they were seeking higher payments from managed care organizations through aggressive negotiation. This resolve is not unique to Connecticut, as hospitals around the United States and New England seek to maintain margins and services as government payments decline.

### **2. Minimizing turnover of effective management teams**

Management turnover can be very disruptive for hospitals, but sometimes is necessary to bring new vision and leadership to struggling providers. Frequent turnover can confuse department managers and disrupt physician communication. The management of Connecticut's hospitals has been remarkably stable over the past several years. However, some facilities (such as John Dempsey) have experienced significant management changes that have been challenging for the organization, while others are facing the retirement of long-term, successful

leaders. The site visits suggested that more management turnover is likely as hospitals continue to adapt to the incentives of a deregulated environment.

### **3. Connecting with community**

Assuring communication with local communities is another critical success factor in today's health care environment. There are several mechanisms for such communication, including assuring that governing boards represent community diversity and opinions, interacting with local government and public health agencies, measuring patient satisfaction, and conducting community needs assessments to guide program development. There are many examples of these mechanisms in Connecticut. Bristol Hospital, for example, has made a major and nationally recognized investment in measuring customer satisfaction and addressing concerns that arise in patient surveys. Manchester Memorial and Rockville Hospitals (the Eastern Connecticut Health Network) have prepared extensive community assessments that guided development of successful, new cancer treatment programs. There are many other examples of these initiatives across the state.

Communicating clearly with legislators and the public at large regarding hospital plans and initiatives also is an important aspect of connecting with community.

### **4. Capital formation and conservation**

Hospitals with cash or endowment reserves, or with financial performance sufficient to assure the capacity to raise debt have more options during challenging periods than hospitals with limited funds. Capital formation and conservation are achieved through conservative financial policies, such as investing rather than spending all cash flows, aggressive fund raising, and generating positive operating margins (so that reserves or endowments

are not used to fund current operating expenses). Balanced use of long term debt also is important, since principal repayments (which are not included as an operating expense) can require substantial resources, particularly for hospitals with slim or negative margins.

Several hospitals in Connecticut are well endowed. Investment gains on reserves provide significant resources to offset operating losses. Others have minimal cash on hand and thus face major challenges due to multiple years of operating losses and cash needs of affiliate entities.

### **5. Employee satisfaction and morale**

Hospitals are struggling to attract and retain nurses, information technology staff, pharmacists and pharmacy technicians, radiology assistants, and others. This results from the strong U.S. economy and the relative attractiveness of alternative work settings such as health insurance companies, physician offices, and others. Hospitals have been characterized in national media as challenging places to work, with long hours and stressful conditions, and are not considered part of the "new economy." Organizations that initiated strategies early to attract workers are faring better in this challenging labor market.

### **6. Achieving volume growth**

Volume growth (inpatient admissions, outpatient visits, etc.) is important to financial performance, because hospitals have fixed costs that can be spread more effectively over a larger patient base. Hospitals with weaker financial performance in Connecticut also experienced larger volume declines than their stronger counterparts. Achieving volume growth depends on attracting and relating well to medical staff, developing new programs needed by the community, offering competitive rates to managed care companies,



and competing for patients on the basis of quality and service.

#### **7. Maintaining effective technology strategies**

Medical technologies and new pharmaceuticals have led to significant medical advances; they also represent emerging cost drivers for hospital care. Some Connecticut hospitals have developed innovative approaches to managing pharmaceuticals and to deciding which technologies to adopt and when. Hartford Hospital, for example, has developed advanced approaches to administering antibiotics that have gained national attention. Hospitals increasingly will need effective approaches to managing these investments, including achieving higher reimbursement for procedures involving expensive medical supplies. Collaboration with physicians will be critical to these efforts.

#### **8. Maximizing the benefits of participating in a hospital system**

Many of Connecticut's hospitals have affiliated (through horizontal integration strategies) with other hospitals in the state. For example, New Britain and Bradley, Bristol and St. Francis, Manchester and Rockville and others have aligned using various corporate structures, ranging from loose contractual associations to establishing jointly governed subsidiaries, to full-asset mergers. These relationships have resulted in several benefits to the participating hospitals, including reduced administrative expenses (as hospitals share department heads over two hospital sites), additional group purchasing power, and greater market strength for managed care contracting. Continuing to achieve and maximize the benefits of these arrangements also will remain important to success for Connecticut's hospitals.

#### **9. Measuring and improving performance**

Hospitals that consistently monitor performance and initiate corrective action can manage problems more effectively than others. Accurate financial reporting, robust information systems, and management and board demands for timely, precise data facilitate this process. St. Mary's Hospital, for example, has instituted more careful budget procedures and attention to budget variances. Like many hospitals in the state, St. Mary's measures staff productivity against benchmarks to assure that staff are deployed effectively. Accounting mistakes can lead to financial distress since creditors and other stakeholders lose confidence in reported results when these problems occur.

#### **10. Developing and maintaining effective medical staff relationships**

Medical staff relationships, like those with the community, are critically important. Physicians can be important allies in hospital success, or can be major competitors or create other challenges that consume hospital resources. Hospital management teams that achieve effective relationships with physicians through productive communication and collaboration have advantages over hospitals without these characteristics.

#### **11. Avoiding major strategic and financial mistakes**

Most Connecticut hospitals (and those across the United States) now view their investments in physician practice acquisitions and management services organizations as problematic mistakes. Millions have been lost as hospitals did not obtain expected returns on investment. These investments were made based on generally accepted views for how the health care system would evolve, however this vision did not materialize.

Some hospitals managed to avoid investing substantial sums in these endeavors, while others have been weakened due to these losses. Hartford Hospital, for example, is characterized by a deliberative, collaborative management style credited with keeping this organization out of substantial losses.

## 12. Achieving appropriate balance between board and management responsibilities

Governing boards provide important guidance to hospital management and have fiduciary responsibilities for the organizations they oversee. Board members frequently hear comments about hospital care and communicate these to hospital management. In some circumstances, hospital boards go beyond their governance role and exert direct influence over management issues, for example, directing department managers rather than holding top management accountable to desired objectives. In these circumstances, management effectiveness can be compromised.

## 13. Balancing “mission and margin”

Each of Connecticut’s hospitals is not-for-profit. Each documents commitment to the communities through their mission statements. These missions are an integral part of the institution’s identity, yet their ability to carry out their mission is often dependent on their ability to maintain positive margins. Positive margins are necessary for financial viability, to satisfy debt covenants, and to replenish fixed assets. Many needed community programs and services generate losses. Management’s ability to balance mission and margin is critical to continued success and to an effective hospital system in Connecticut.

## ROLE OF NON-OPERATING INCOME

Non-operating income has been an important resource for Connecticut hos-

**Exhibit 29: Aggregate Operating and Non-operating Revenue and Income for Connecticut’s Hospitals**

\$ in Millions	1997	1998	1999
Total Operating Revenue	\$4,218.7	\$4,323.8	\$4,459.2
Operating Income	99.2	59.2	(32.7)
Non-Operating Income	148.1	122.4	140.1
Total Income	\$247.3	\$181.6	\$107.5
Operating Margin	2.4%	1.4%	-0.7%
Total Margin	5.7%	4.1%	2.3%

pitals and for their counterparts across the United States. Non-operating funds are derived from multiple sources, including investment gains from endowments and other cash reserves, donations, and in some cases joint venture programs with affiliates or other hospitals. Non-operating events such as bond refinancing also affect reported non-operating income. As shown above, without non-operating income, Connecticut’s hospitals would have reported an overall total loss in 1999.

Six hospitals have cash and endowment reserves (reported as hospital assets versus within an affiliated foundation) that exceed one-half of one year’s annual operating revenue: Backus, Greenwich, Hartford, Manchester, Rockville, and St. Vincent’s. These hospitals created their reserves over the years through philanthropy, operating earnings, investment gains, and conservative financial management.

One concern is that if investment returns fall (due to declining equity or other financial markets), the amount of non-operating income available will decline, affecting the availability of these resources for capital needs, for achieving financial performance needed to meet bond covenants, and for other purposes.

## CAPITAL EXPENDITURES AND CAPITAL FORMATION

Hospitals are capital intensive, requiring constant investment in buildings, equipment, and information systems. In 1999, Connecticut's hospitals invested approximately \$400 million in these capital needs. Capital expenditures are required for hospitals to remain in compliance with licensing standards, to remain competitive, and to bring new services to their communities.

There are four principal sources of capital for the state's not-for-profit hospitals: operating income, debt, investment earnings, and philanthropy. Due to the financial challenges discussed, three of these four sources increasingly are constrained.

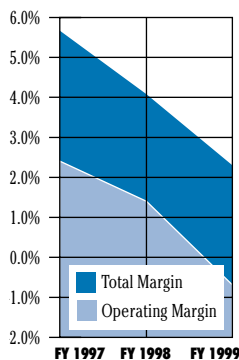
- ◆ Operating income (the excess of revenues over expenses) is an important source of funds for capital needs. Declines in operating income affect the availability of this resource for capital requirements.
- ◆ According to CHEFA (the Connecticut Health and Educational Facilities Authority), Connecticut's hospitals had \$1.35 billion in bonds outstanding. Forty-two of forty-seven bond issues are enhanced with bond insurance, which would repay hospital debts in the event of default. Debt service coverage ratios monitored by CHEFA declined from 5.9 in 1996 to 3.96 in 1999 as margins declined for the state's hospitals. Debt is becoming increasingly constrained as a source of funds for

capital projects due to heightened concerns among lenders and bond insurers regarding hospital financial performance. Lines of credit for several Connecticut hospitals were cancelled during 1999.

- ◆ Investment earnings on endowments and other cash reserves also have been an important resource for capital needs. If investment returns from capital markets fall, this resource also will be under some constraint.
- ◆ Philanthropy continues to be provided particularly for hospitals located in wealthier communities.

The average age of hospital physical plants<sup>14</sup> in Connecticut was 9.2 years at the end of fiscal year 1999, consistent with the national average. This statistic for three Connecticut hospitals exceeds 12.0 years: Bradley, Rockville, and Windham. Capital expenditures in the next few years can be expected to be somewhat higher for these hospitals as they update facilities to remain competitive.

**Exhibit 30:  
Aggregate  
Operating and  
Total Margins  
for Connecticut  
Hospitals:  
1997-1999**



Source: Lewin Group  
Analysis of Hospital  
Audited Financial  
Statements.

## FINANCIAL PERFORMANCE OVERVIEW

1999 was a challenging year for most of Connecticut's 31 acute care hospitals. Several hospitals demonstrated signs of financial weakness and distress. Collective operating income<sup>15</sup> for the state's hospitals was negative in hospital fiscal year 1999<sup>16</sup> and operating margins<sup>17</sup> fell to a negative 0.7 percent. Due to positive investment gains and other "non-operating income," total margins<sup>18</sup> remained positive.

With the exception of 1999, Connecticut's acute care hospitals did not generate a collective

operating loss in the 1990s.<sup>19</sup> Exhibit 31 shows that the number of hospitals generating operating losses<sup>20</sup> and total losses increased significantly in the last three years. Fifteen, or almost one-half of the state's hospitals, generated operating losses in fiscal year 1999.

Growth in the number of hospitals with negative operating and total losses has led to financial challenges for several hospitals in the state, as discussed below.

**Financial Condition of Connecticut's Hospitals**

One purpose of this study, as stated in its enabling legislation, was to examine the issue of financial distress in Connecticut's hospitals. In any business or industry, expenditures greater than revenues is the core of financial distress. The hospital industry is no different from this rule, but there are indicators specific to the hospital industry that can help identify distressed hospitals beyond the bottom line of a balance sheet. Poor financial performance over a long term is likely to result in the overall deterioration of resources, to the point that a hospital is required to eliminate or reduce needed (but unprofitable) services; the board may involuntarily lose some or all control of the business; buildings and equipment that are critical to hospital services cannot be replenished; or the hospital cannot meet its financial obligations to vendors, bond holders, or employees. In its more extreme form, which is not seen in Connecticut at this time, patients, physicians, or staff lose confidence in the quality of care.

As a result of a combination of data analysis and discussions with hospital

management teams during the site visit process, three groups of hospitals emerged. Twenty Connecticut hospitals are financially strong. Another seven are showing signs of financial challenges but are likely

to be stable for the next few years. The remaining four Connecticut hospitals appear to be financially distressed. Exhibit 32 identifies the distressed hospitals in two categories: "significantly" and "moderately" distressed.

The four significantly distressed hospitals share several common characteristics. These hospitals:

- ♦ Have operating losses coupled with low cash or endowment reserves.
- ♦ Are generally small, and experienced greater than average declines in average daily census.

Average daily census for all Connecticut hospitals declined by one percent between 1997 and 1999. Census for the four significantly distressed hospitals declined by an average of six percent. Census at Johnson Memorial Hospital fell 15 percent during this period.

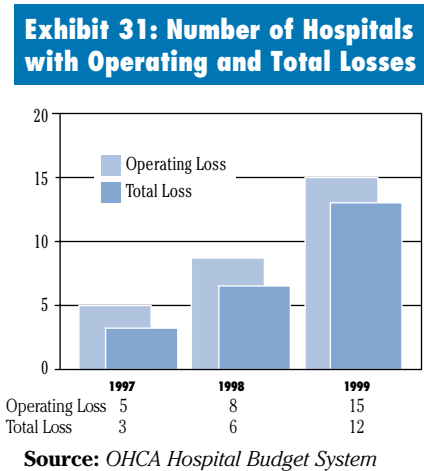


Exhibit 32: Distressed Connecticut Hospitals	
Significantly Distressed	Moderately Distressed
Bradley Memorial Hospital	Bridgeport Hospital
Johnson Memorial Hospital	Charlotte Hungerford Hospital
Sharon Hospital	Connecticut Children's Medical Center
St. Mary's Hospital	John Dempsey Hospital
	New Britain General Hospital
	St. Raphael's Hospital
	Waterbury Hospital

Three of the four hospitals had an average daily census of fewer than 45 patients during 1999 (Bradley, Johnson, and Sharon) and thus are among the smallest hospitals in the state.

- ◆ Have comparatively low “payment to cost” ratios from commercial payers. This measure compares the payment received from non-government, commercial payers such as HMOs, PPOs, and indemnity plans with the estimated cost to treat these patients. The four hospitals had payment to cost ratios below 1.16, indicating that they had limited ability to offset losses from serving Medicaid patients through higher payments from private payers.
- ◆ Were in technical default on loan covenants.

Lenders and bond holders frequently establish minimum financial performance standards that must be met, including debt service coverage ratios, minimum cash balances, and others. Three of the four hospitals were in technical default of loan (or bond) covenants during fiscal year 1999. If covenants are not adjusted when default occurs, hospitals must hire consultants to evaluate the ability of the hospital to re-pay its obligations, must establish additional collateral, or undertake additional measures pursuant to their loan agreements.

The four hospitals are addressing their financial challenges in different ways.

- ◆ The board and management at Bradley Memorial Hospital currently are deliberating on the hospital’s future.

- ◆ Johnson Memorial Hospital has been required to establish additional collateral, and funds are being transferred on a regular basis from affiliate corporate entities to the hospital to stabilize its finances. The hospital also is evaluating additional cost reduction opportunities, and is appreciative of the State’s repeal of the hospital gross earnings tax, which will be particularly meaningful because the hospital has been a net payer into the Uncompensated Care Program since the program was established.

- ◆ Sharon Hospital may be acquired by a for-profit health care company, which would purportedly invest in new programs and undertake other measures to improve the hospital’s performance.

- ◆ The leadership of St. Mary’s Hospital has implemented a series of initiatives designed to improve financial results. The hospital requested permission to close its inpatient behavioral health program. However, in late 1999 the hospital complied with a statewide voluntary moratorium on reductions of behavioral health services and withdrew this request. St. Mary’s also implemented initiatives to reduce staff, improve medical staff relations, reduce losses in affiliated physician practices (through divestitures) and other affiliates, and change employee benefits. These initiatives have been effective and should allow the hospital to avoid violating covenants for the immediate future.

Additional comparative analysis of all distressed versus non-distressed Connecticut hospitals indicates the following.

**Exhibit 33: Comparative Analysis of Distressed and Not Distressed Connecticut Hospitals**

Indicators	Significantly Distressed	Moderately Distressed	Not Distressed
Number of Hospitals	4	7	20
Medicare % of Revenue	40%	41%	38%
Medicaid % of Revenue	7%	10%	6%
Medicaid Payment to Cost Ratio	0.75	0.73	0.66
Commercial Payment to Cost Ratio	1.01	1.03	1.17
Average Daily Census (ADC)	61	177	173
1997 to 1999 Change in ADC	-5.9%	-3.5%	-1.2%
Outpatient % of Charges	44.5%	32.5%	36.2%
Efficiency Index	1.02	0.97	1.01
1997 to 1999 Growth in Expenses per Adjusted Day	9.9%	9.2%	4.1%
1999 Operating Margin	-6.5%	-4.8%	0.9%
1999 Total Margin	-5.2%	-2.8%	4.5%

This exhibit provides further insights into variables associated with financial distress.

- ◆ Distressed hospitals have a higher proportion of government (Medicare and particularly Medicaid) revenue. As discussed earlier in this section, Connecticut Medicaid (both the State through fee-for-service rates and managed care organizations that have enrolled Medicaid beneficiaries) pays hospitals about 70 percent of their cost to treat Medicaid patients. Medicare payments were reduced by the Balanced Budget Act of 1997.
- ◆ On average, both Connecticut's distressed and relatively healthy hospitals receive approximately the same level of Medicaid payment—about 70 percent of cost.
- ◆ Financially weaker hospitals receive relatively poor reimbursement from commercial payers as well. Relatively low commercial payments (compared to cost) can result from several factors, including:

—High levels of competition between hospitals and other providers, which allow health insurance plans to negotiate more aggressively for lower reimbursement rates.

—A comparatively weak local economy, which in turn leads employers to purchase health insurance coverage with lower benefits and payment levels than are prevalent in wealthier communities.

—Hospital acceptance of “capitated” managed care contracts, which provide reimbursement on a “per-capita” basis rather than paying for each separate

service. Many of Connecticut's hospitals, like their counterparts across the United States, have lost money under these arrangements.

—Financial weakness within managed care organizations, leading to constraints on provider reimbursement and lack of timely payment.

—Other factors leading hospital management to negotiate unfavorable payment arrangements from commercial health insurance plans, e.g., the belief that lower rates would be rewarded with increased patient volume.

- ◆ The financially weaker hospitals also have experienced declining versus stable inpatient volume. The significantly distressed hospitals have an average of 61 patients in inpatient beds versus more than 170 for healthier hospitals in Connecticut.
- ◆ In part because inpatient volumes fell, distressed hospitals also



experienced higher than average growth in expenses per adjusted patient day. As discussed earlier in this section, Connecticut's hospitals are experiencing cost pressures from higher nursing salaries (due to a growing nursing shortage), medical technology and supplies costs, growing pharmaceutical expenditures, higher utility costs, and other factors. Some hospitals have been able to control cost growth better than others, either due to a more favorable local labor market, because they implemented cost reduction programs during this period, or because overall volume increased—allowing fixed costs to be spread more efficiently.

- ♦ The distressed hospitals generally have lower cash reserves or endowment resources, and higher debt burdens.

Many of the financially challenged hospitals also invested significant resources in integrated delivery system strategies, including acquiring or developing physician practices and provider-sponsored managed care entities. As discussed earlier in this section, most of these investments, which appeared justified at the time due to generally accepted theories regarding how the health care system would evolve in the U.S. and in Connecticut, led to significant losses that weakened many hospitals financially.

Financial difficulties affect hospitals in several ways. These hospitals are at greater risk for closure, creating potential access problems for local communities. These facilities also are more likely to experience a change of ownership, such as mergers or acquisitions. They also are characterized by management turnover, staff layoffs, and closure of unprofitable but often needed services. Hospital man-

agement is not free to focus on growing or developing new programs, and is at a disadvantage when attempting to recruit new staff, delaying investments in facilities or needed equipment.

### **EFFICIENCY AND VALUE PROVIDED BY CONNECTICUT'S HOSPITALS**

In Connecticut, as in other parts of the country, state governments, legislators, and the public are asking, "Do we have the right number of hospitals? Are these hospitals running efficiently? and Are we getting good value for these hospitals?" This section discusses these questions.

#### **Hospital Capacity in Connecticut**

In 1994, Connecticut significantly decreased its regulatory role in the hospital industry by abolishing the Commission on Hospitals and Health Care, a state agency that set hospital rates. The theory held that a more market-oriented system would eliminate excess capacity, and increase efficiency and value through competition. Despite this decrease in regulation, Connecticut has maintained the Certificate of Need (CON) process, while other states have allowed CON to sunset. Examination of traditional measures of capacity do not yet reveal significant problems. Assessing Connecticut along these traditional measures yields the information in Exhibit 34.

Connecticut is well below the U.S. average in terms of hospitals per 100,000 population, beds per 1,000 population, admissions per 1,000 population, and inpatient days per 1,000 population. This would suggest that Connecticut does not have an obvious over-capacity problem. Connecticut does, however, rank relatively high in terms of hospitals per 1,000 square miles, indicating that Connecticut consumers have comparatively good access to hospital care.

Connecticut is above the U.S. average for occupancy rates, and at 69 percent is ranked 8th in the nation. This suggests that Connecticut hospitals are well utilized, with adequate reserves for stand-by capacity.

However, traditional capacity measures are becoming problematic. The overall shift in the health care industry towards outpatient care has led to physicians providing more ambulatory services, augmenting and sometimes competing with hospitals. Furthermore, variables such as staffed beds do not capture daily and seasonal fluctuations in patient volume, staffing requirements for nurses and other health professionals, and the nursing shortage. All of these issues affect capacity and complicate attempts to define and apply appropriate standards.

With medical and technological advances, the aging of the population, and changing health insurance systems, health care delivery is likely to continue to shift to ambulatory settings. Given this trend, the definition of capacity needs to be continually reexamined. Does a lower occupancy rate indicate unneeded capacity? How important is stand-by capacity given swings in inpatient census? What is the relationship between inpatient and outpatient capacity, and how much more

outpatient care will be delivered in hospitals? Should capacity be defined differently along different services lines (i.e., ICU bed vs. medical/surgical bed)? What is the actual cost of an empty bed?

When examining hospital utilization across the country, it is difficult to tell if supply induces demand, or demand induces supply. Qualitative observations gathered through site visits, focus groups, and stakeholder interviews in Connecticut reveal general satisfaction with both the number and distribution of hospitals in Connecticut. Some hospitals in less populated areas may only be 15 to 20 miles apart, yet Connecticut residents view these hospitals as being in completely separate communities. Connecticut may therefore prove to be a state where demand induces supply, and where communities often demonstrate their support of local hospitals.

Connecticut thus appears to be in approximate balance between the need for hospital care and the provision of hospital care. Additionally, when factors of community satisfaction and a potential reversal in the downward trends in inpatient utilization are taken into account, significant downsizing is not an obvious strategy.

However, urban market areas that contain competing hospitals do require careful monitoring. While competition appears to be an adequate strategy to provide appropriate capacity, efficiency, and value, it can also lead to the deterioration of many hospitals in a given competitive urban area. While Connecticut's attempts to balance private sector solutions with regulatory requirements appear successful to date, market driven solutions

**Exhibit 34: Hospital Capacity Measures**

	CT	CT Rank	US Average
Hospitals/100,000 (1997)*	10.4	49	20.1
Hospitals/1,000 Square Miles	6.1	10	1.5
Beds/1000 (1998)	2.12	44	3.1
Admission/1000 (1998)	100.8	37	117.7
Inpatient Days/1000 (1998)	537.21	42	708.2
Occupancy Rate (1998)**	69%	8	62%
Physicians/1000 (1997)	3.4	4	2.5

**Source:** American Hospital Association Rank is out of 50 states. Connecticut was 49th out of 50 states in hospitals per 100,000 persons, but 4th highest in physicians per 1000. \*Connecticut had 34 hospitals in 1997 \*\*staffed beds

that lead to financially weakened hospitals may ultimately require judicious regulatory intervention.

### Comparative Efficiency of Connecticut's Hospitals

An “efficiency model” developed by The Lewin Group was applied during this study to compare the operating cost of Connecticut's hospitals with those of other states and across the nation. This analysis examined inpatient cost per inpatient discharge for Medicare patients, and allows judgments to be made regarding the relative efficiency of specific hospitals with peers across the United States.

The cost-per-case analysis can determine the degree to which hospital costs are greater than expected (presumed inefficient), or less than expected (presumed efficient). Regression models are used to estimate the expected values of Medicare and total inpatient cost-per-case for all U.S. hospitals for the three years ended September 30, 1997. Data sources include the Medicare Cost Report (HCRIS) minimum data set, HCFA's Impact File, the HHS Area Resource File (ARF) and the Interstudy Competitive Edge Regional Market Analysis (for HMO penetration rates). The model thus factors in the effects of case mix, area wage costs, graduate medical education programs, and other

variables associated with hospital operating expenses. Connecticut results of the efficiency analysis are presented at left.

The efficiency model compares *predicted* cost of inpatient services for Medicare patients with *actual* costs reported by hospitals in serving these beneficiaries. If actual

costs exceed predicted costs, hospitals are presumed inefficient, and the “efficiency index” is greater than 1.0. An index below 1.0 suggests that hospitals are relatively efficient. Based on the above analysis, it appears that the relative efficiency of hospitals in Connecticut improved during the 1995 to 1997 period.

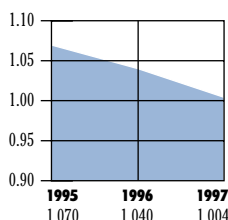
### Quality of Hospital Services

Key informants and stakeholders interviewed during the data collection phase of this study or who participated in focus groups indicated that quality of patient care is a strength of Connecticut's hospital and health care system. A recent study published in the *Journal of the American Medical Association* confirms that the quality of care in Connecticut (for Medicare beneficiaries) is indeed comparatively high.<sup>27</sup>

Study researchers identified 24 “process-of-care measures related to primary prevention, secondary prevention, or treatment of six medical conditions (acute myocardial infarction, breast cancer, diabetes mellitus, heart failure, pneumonia, and stroke) for which there is strong scientific evidence and professional consensus that the process of care either directly improves outcomes or is a necessary step in a chain of care that does so.”<sup>28</sup> Based on these measures, Connecticut ranks 6th of all 50 states and the District of Columbia in overall quality of care. Several other New England states also rank in the top 10 based on this analysis.

#### Exhibit 35: Efficiency Index for CT Hospitals

Below 1.0 = More Efficient than Predicted Based on U.S. Average.



### TURNING POINTS AND THE FUTURE OF CONNECTICUT'S HOSPITALS

Has the performance of Connecticut's hospitals turned in fiscal year 2000? Will performance improve in the next few years? This section discusses “turning

points” and provides insights into future performance of the state’s hospitals.

The following exhibit shows that performance in fiscal year 2000 through June 30 improved for Connecticut’s hospitals. Statewide, hospital utilization, which increased between fiscal years 1998 and 1999, has continued to increase through June 30, 2000. Admissions are three percent above last year’s levels, while lengths of stay have declined slightly. Hospital operating margins also have improved

why performance for many of the state’s hospitals has improved in recent months. These issues are identified below.

<b>Exhibit 36: Performance Indicators for Connecticut Acute Care Hospitals Monitored by CHEFA</b>			
	<b>1999</b>	<b>2000</b>	<b>Change</b>
Admissions	266,759	275,440	3.3%
Patient Days	1,193,007	1,217,426	2.0%
Average Length of Stay	4.47	4.42	-1.1%
Total Operating Revenue*	3,007.0	3,147.8	4.7%
Operating Income*	(13.5)	(7.3)	45.9%
Non-Operating Income*	91.3	86.0	-5.8%
Total Income*	77.8	78.8	1.3%
Operating Margin	-0.4%	-0.2%	50%
Total Margin	2.5%	2.4%	-4.0%

slightly—from a loss of –0.4 percent in the year to date period ended June 30, 1999 to –0.2 percent in the fiscal year 2000 period.

### Turning Point Issues

The preceding discussion focused on data and findings through the 1999 fiscal year. There are several issues that emerged during site visits and from analyses conducted using fiscal year 2000 data that are meaningful to the future performance of the state’s hospitals. These issues are called “turning points,” because several of them represent significant changes to trends observed through 1999, and illuminate

- ♦ Hospital utilization has continued to increase, and consumers and employers are continuing to select preferred provider organization (PPO) plans over more restrictive HMO arrangements.
- ♦ Federal payment policy changes are likely to provide additional Medicare reimbursement through additional refinements to the Balanced Budget Acts.
- ♦ Health insurers are exiting the Medicare managed care business, and affected consumers are choosing either alternative HMOs or to return to the fee for service system.
- ♦ Connecticut hospitals have presented publicly a study of Medicaid payment rates in the state, and have requested additional reimbursement. In addition, the repeal of the Gross Earnings Tax is improving fiscal year 2000 results. Fiscal year 2001 will reflect a full year of this tax relief.
- ♦ Hospitals have adopted even greater resolve to improve the results of their managed care contract negotiations.
- ♦ The nursing shortage has become more severe, in part due to higher hospital utilization and to heightened competition among hospitals for these critical employees.
- ♦ Consumer demands on health care providers are likely to grow, as additional information regarding quality of care becomes publicly available.

- ◆ Hospitals are questioning whether additional cost containment initiatives will be successful in reducing operating cost, or whether they must eliminate or curtail patient care services to maintain their margins going forward.
- ◆ The U.S. and Connecticut economies may be slowing, affecting unemployment rates and investment returns.
- ◆ The sequencing of the human genome and continued innovations in medical technology will create a constant influx of new drugs and devices.

To demonstrate the effects of some of these variables on future hospital performance in the state, The Lewin Group applied its Margin Projection Model for Connecticut. The results are described below.

#### Future Financial Performance of Connecticut's Hospitals

Future financial performance of Connecticut's hospitals will depend on how the performance drivers discussed in this report unfold over the next several years. The projection model includes assumptions regarding future payment rates, inflation in hospital expenses, utilization trends and payer mix, and changes in the Gross Earnings Tax.

The model also integrates year-to-date financial performance information made available by the Connecticut Health and Educational Facilities Authority. Results are calculated for each hospital in the state and

then aggregated for analysis. Historical and projected operating margins for Connecticut's 31 acute care hospitals are presented in Exhibit 37. Operating margins are estimated based on four scenarios: baseline, lower inflation, improved commercial, and Medicaid to 80%.

Under the baseline scenario, operating margins for the state's hospitals improve between fiscal year 1999 and 2001 and achieve break-even status; margins decline thereafter. The GET Tax repeal is the primary source of margin improvement. Assumptions leading to these results include the following:

---

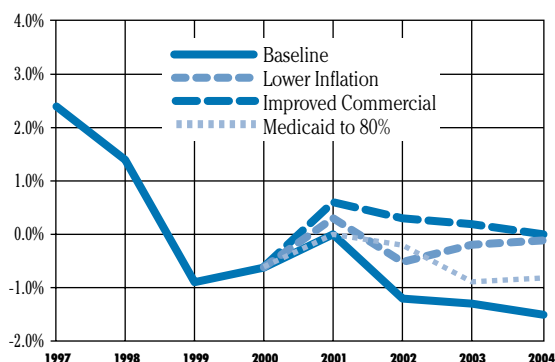
#### Margin Projection Model Assumptions Hospital Utilization

- ◆ Hospital Utilization changes in 2000 at one-half the rate of increase reported between 1998 and 1999.
- ◆ The rate of change (increase or decrease) declines thereafter, and is assumed to be zero after 2002.
- ◆ Payer mix trends between 1997 and 1999 are carried forward to the 2000 through 2002 time period and then held constant.

#### Hospital Payment

- ◆ Future fee-for-service Medicare rates change consistent with current expectations based on the Balanced Budget Refinement Act.
- ◆ The percentage of Medicare beneficiaries enrolled in managed care plans declines from 18 percent to 15 percent by 2001.
- ◆ Medicaid payments are assumed to increase an average of 1.5 percent annually, under the assumption that fee-for-service payments will not increase (consistent with current Connecticut budget expectations) and that payments from managed care organizations participating in

**Exhibit 37: Operating Margins for Connecticut Hospitals**





the Medicaid program provide rate increases averaging 3.0 percent annually.

- ◆ Commercial payment rates increase at inflation minus 1.0 percent for fiscal years 2000 through 2002, and then at market basket thereafter.
- ◆ The Gross Earnings Tax is repealed on April 1, 2000. \$75 million in GET savings are available to Connecticut's hospitals at that time.
- ◆ Hospital subsidy arrangements that existed in fiscal year 2000 (i.e., for John Dempsey Hospital and Connecticut Children's Medical Center) are assumed to continue to the extent these arrangements are reflected in year-to-date performance.

#### *Hospital Operating Expenses*

- ◆ The "core rate" of assumed inflation is the hospital "market basket" published by HCFA. This rate averages 2.7 percent between 2000 and 2004. This rate reflects the cost of inputs to hospital care (salaries, supplies, etc.) and also the effect of new technologies on hospital expenditures.
- ◆ Twenty percent of hospital expenses are assumed to be fixed, and 80 percent variable with volume changes.

---

The alternative scenarios were developed by adjusting the baseline assumptions as follows.

- ◆ Under the "lower inflation" scenario, the core inflation rate for hospital cost was reduced by 1.0 percent annually. This leads to improved payment to cost ratios, particularly for Medicare.
- ◆ Under the "improved commercial" payment scenario, payments from managed care companies are assumed to increase by 1.0 percent above inflation for fiscal years 2001

and 2002, on the theory that hospitals would improve their contract negotiation results during those years.

- ◆ Under the "Medicaid to 80 percent" scenario, Medicaid payments are increased in 2002 and again in 2003, such that the Medicaid payment to cost ratio increases to 0.80 by 2003. The average Medicaid payment to cost ratio for the United States was approximately 0.90 in 1998.

These scenarios highlight selected public policy opportunities and management options available to the state's hospitals. If hospitals are able to contain growth in expenditures, financial performance would improve. The growing nursing shortage and cost of pharmaceuticals and new technologies make achieving this scenario increasingly difficult. If hospitals are able to negotiate managed care contracts that lead to increases in commercial payment to cost ratios, results would improve as well. The outcome of these negotiations is very important to financial performance. Increasing Medicaid payments to the level prevailing across the United States would have a significant effect on financial performance, and would reduce the current \$140 million in losses incurred by the state's hospitals in serving Medicaid patients.

A key finding of our analysis is that even under optimistic assumptions, Connecticut hospitals show operating margins below 2.0 percent, which is below the national average. This suggests that Connecticut hospitals' access to capital and the ability to stay current and modernize could be jeopardized in the near future unless a combination of initiatives are implemented.



## **STRENGTHS AND WEAKNESSES OF CONNECTICUT'S HOSPITAL AND HEALTH CARE SYSTEM**

Connecticut's hospital and health care system has many strengths that serve consumers well, and several weaknesses that complicate the provision of cost-effective care. This section discusses these strengths and weaknesses, which provide the basis for several policy recommendations proposed at the end of this chapter.

### **Strengths**

#### **1. Connecticut's hospitals provide many community benefit services.**

All of Connecticut's hospitals are not-for-profit organizations that identify and respond to community needs. Each is committed to community service, delivering care to Medicaid and uninsured populations, as well as establishing specific programs to respond to gaps in public health resources. Staff from The Lewin Group, Inc. who conducted site visits for this study found this commitment to be more extensive than in other states.

#### **2. Connecticut consumers have good access to physician and hospital care.**

Statistics and perceptions across the state indicate that access to hospitals and physicians are strengths in Connecticut. In terms of physicians per 1,000 persons, Connecticut ranks among the top ten states in the country. In terms of hospitals, the number of hospitals per 1,000 square miles is among the highest in the United States, and each of Connecticut's counties contains at least one facility, with concentrations of hospitals in the urban sections of Fairfield, New Haven, and Hartford counties.

#### **3. Connecticut's hospitals appear to be relatively efficient and of comparative high quality.**

The Lewin Group's efficiency model suggests (after adjusting for graduate

medical education and other variables recognized by the Medicare fee-for-service system) that Connecticut's hospitals are relatively efficient compared to other hospitals in the United States. There is also a perception of high quality for both hospitals and physicians in Connecticut. Recent studies that compare hospital quality across states confirm this impression. With major academic medical centers in both New Haven and Hartford, Connecticut residents have access to the most advanced health care.

#### **4. The State's Uncompensated Care Program provides a mechanism for distributing the financing of indigent care.**

The Uncompensated Care Program results in a statewide approach to the issue of indigent care. With both state and federal funding, a formula distributes funds to hospitals based on the amount of indigent care hospitals provide to their communities. This allows hospitals to recoup some of their losses on this population.

#### **5. The State's commitment to academic medicine encourages high quality and access to the latest technologies.**

Residents of Connecticut can receive the latest technology at the state's two academic medical centers, as well as at many of the larger urban community hospitals. Medical technology at some of the smaller community hospitals also exists at a relatively high level. While academic medicine contributes to quality care, it also increases the cost of hospital services in the state.

#### **6. Local communities are very involved in health care issues.**

Most Connecticut hospitals benefit from strong community support. Hospitals in wealthier areas of the state receive significant amounts of philanthropic support.

**7. Dialogue exists between the hospital community and the State over capacity and other issues.**

The CON process provides a mechanism for dialogue between hospitals in Connecticut and State government. Capacity and other issues are discussed through this dialogue, which is not available to other states.

**Weaknesses**

**1. The State's health care policy development and oversight is not well coordinated.**

Most stakeholders, both in the private sector and in the public sector agree that the level of communication between Connecticut state agencies involved in health care is poor. Many of the responsibilities of these agencies overlap to varying degrees, and improved cooperation would improve quality of the services these agencies provide and would help clarify the state's overall health policy objectives, and reduce duplicative reporting requirements.

**2. Low Medicaid payment may lead to access issues.**

Low Medicaid payment is a weakness of Connecticut's hospital and health care system. There are technical problems with the current fee-for-service hospital payment methodology, and low reimbursement levels may eventually lead to access problems for the state's low income consumers. Low Medicaid payment was more manageable before rate deregulation. Now that commercial payments are determined through competitive forces, Medicaid losses are more difficult to recoup through the "cost shift."

**3. Connecticut's troubled behavioral health system creates access problems and is challenging for the state's providers.**

The lack of capacity and services to treat the volume of patients with serious men-

tal health and substance abuse problems presents problems for Connecticut's hospitals. Many hospitals are treating these patients in sub-optimum settings, and are having difficulty finding the services and placements necessary for appropriate treatment.

**4. The State's CON laws should be updated to reflect the changing health care environment.**

Updating CON would help make this mechanism of state health care policy more effective. Evaluating medical technology advances, and the role of free-standing diagnostic and treatment centers in acute care would be important to this process.

**5. There is a growing shortage of health care workers in Connecticut and across the United States, particularly nurses.**

With varying levels, Connecticut hospitals are facing staffing shortages, particularly with regards to nursing. The nursing shortage has the potential to affect patient care, patient satisfaction, and hospital costs as a result of bidding wars between institutions. Hospitals are also facing shortages of pharmacists and medical technicians. The State's nursing study should be reviewed carefully.

**6. Barriers to regional planning are present in Connecticut.**

Many public functions are managed at the town level in Connecticut. This often prevents the state and other stakeholders from effecting regional health planning. Given the nature of the wealth distribution in Connecticut, with distinct areas of wealth and poverty, the local nature of government results in some hospitals receiving significant sources of funding from the community, while others receive very little.

### **7. A credibility gap exists between hospitals and key stakeholders.**

Despite Connecticut hospitals' experience of financial distress, some key stakeholders remain skeptical. Legislative leaders express concern about financial transactions between hospitals and their affiliates. Some employers are also skeptical, and believe hospitals must be held accountable for management decisions such as acquiring physician practices. Other stakeholders worry about the impact of

hospital distress on vulnerable patient populations: the uninsured, Medicaid recipients, and consumers with disabilities and mental illness. As hospitals attempt to address financial losses, certain services (such as psychiatry) may be disrupted or eliminated. Hospitals form part of the network of "safety net" providers in Connecticut. If hospital services decline, then other such providers such as community health centers (CHCs) feel increased pressures.

## **SUMMARY OF KEY FINDINGS**

This section summarizes the principal findings from the preceding analysis.

- 1.** 1999 was a challenging year for many of Connecticut's hospitals. Collectively, the state's hospitals generated the first operating loss in many years. Eleven facilities showed signs of financial distress. The year 2000 has shown a slight improvement to date.
- 2.** The primary characteristics of hospitals with poorer financial conditions are operating losses, low cash or endowment reserves, small size, relatively low commercial payment (compared to cost), higher than average Medicaid utilization, declining patient volume, and higher than average cost growth in the last three fiscal years. Default on loan covenants is a visible sign of distress, as lenders implement measures to obtain compliance.
- 3.** Inpatient hospital census declined by 50 percent between 1980 and 1996 in Connecticut. The rate of decline slowed between 1996 and 1998, and patient census increased thereafter. Hospital utilization has continued to increase in fiscal year 2000, due to the aging of Connecticut's population, growth of less restrictive PPO (versus HMO) insurance products, the strong economy, and other variables. It is uncertain if the growth in volume over the summer of 2000 will continue.
- 4.** The formation and closure of hospital facilities in the state affects the performance of remaining area hospitals. For example, when Connecticut Children's Medical Center was formed, Hartford Hospital, St. Francis, and John Dempsey Hospitals all transferred patient care programs to the new facility. Closure of Mount Sinai and St. Joseph's Hospitals led to volume increases and capacity adjustments for neighboring facilities. When hospitals close, access issues may be created.
- 5.** Inpatient psychiatric census has grown in Connecticut's general acute care hospitals to an average of 400 patients. Hospitals report several challenges in meeting the needs of Connecticut's mental health consumers, including poor reimbursement

levels for these services, strained capacity of community-based and adolescent services, and a lack of coordination within the state's behavioral health system of care.

- 6.** Connecticut's hospitals all are non-profit, mission-oriented organizations. Many have developed a wide range of programs that meet important community needs and supplement state and local public health services. Unfortunately, many of these hospital-sponsored programs are at risk of termination during periods of financial distress because the services are not profitable.
- 7.** The Balanced Budget Act of 1997 significantly reduced Medicare revenue compared to prior policy. Connecticut's hospitals have been affected by a loss of more than \$250 million annually. The Balanced Budget Refinement Act restored only a small amount of funding, though additional Congressional action may provide further assistance.
- 8.** Growth of managed care within Medicare has been problematic for Connecticut's hospitals and for health insurance companies. Medicare HMOs pay hospitals based on negotiated rates that seldom recognize new technology or medical education costs. The HMOs and hospitals also developed risk-sharing arrangements that led to significant losses for most facilities. Managed care enrollment likely has peaked and will decline as health insurers exit the Medicare managed care market.
- 9.** Hospital Medicaid payments in Connecticut, at approximately 70 percent of cost, are among the lowest in the nation. Total losses from serving Medicaid patients are approximately \$140 million annually. The losses result in part from technical problems with the state's fee-for-service reimbursement methodologies. Medicaid underpayment was more manageable when the state set commercial payment rates to cover public payer losses; however, now that commercial payments are determined through market forces the Medicaid losses are more problematic as the cost shift is less effective in covering public sector losses.
- 10.** Commercial payment to cost ratios have fallen in recent years, due to deregulation of hospital reimbursement, growth of managed care, and the outcome of rate negotiations between hospitals and health insurers. Future payment levels depend on premium rates negotiated between health insurers and Connecticut employers, health insurer profit requirements, growth of non-hospital expenditures such as pharmaceuticals, and other variables. Some hospitals indicated that they are renegotiating managed care contracts; presumably on more favorable terms.
- 11.** Recently enacted prompt-payment statutes should help to reduce payment delays by managed care organizations. These delays have been problematic for the state's hospitals as accounts receivable balances have increased dramatically, lowering cash flow. Improvements in hospital billing systems and practices also would provide helpful benefits.
- 12.** Connecticut's Uncompensated Care Program attracts federal Disproportionate Share matching funds to the state and redistributes significant resources from hospitals with limited indigent care responsibilities to those with substantial uncompensated

care levels. Hospitals expressed concerns regarding the formulas used to allocate these funds (e.g., use of bad debt as an allocator).

- 13.** The Governor's repeal of the Gross Earnings Tax provides significant budgetary assistance to the state's hospitals, and is a primary reason why overall hospital financial performance has improved in fiscal year 2000.
- 14.** Connecticut's hospitals and health care system are facing a growing shortage of nurses and other health care professionals. While shortages have occurred in the past, several conditions complicate solutions to the current challenges. The nursing shortage already is affecting hospital capacity and care in the state, and is leading to inflation in hospital salaries. Creative solutions are needed, but these are not readily apparent.
- 15.** Hospitals also are struggling to contain costs from new medical technology advances, pharmaceuticals, utilities, and regulatory requirements. While hospitals incur large expenses acquiring technologies for patient care, they do not capture the full benefits of these technology developments (such as reduced lengths of stay and improved quality of life for patients).
- 16.** Virtually all hospitals in Connecticut have engaged in patient care redesign initiatives intended to improve the efficiency and effectiveness of care. Hospitals are benchmarking their staffing levels to established norms, implementing patient-centered care models, and introducing hospitalist physicians to improve care management.
- 17.** Connecticut has a high concentration of medical education, and hospitals and physicians are very committed to these programs. The ratio of interns and residents to beds is the third highest in the nation. Graduate medical education programs are associated with higher hospital operating cost, and thus this commitment increases the average cost of hospital care in the state. Graduate medical education and clinical research programs provide many benefits to the state's consumers, such as improved quality of care, additional federal funding, playing an incubator role for other high tech industries and access to the latest technological innovations.
- 18.** Hospital competition in Connecticut takes two forms, competition between the hospitals themselves, and an emerging competition between hospitals and physicians. High levels of hospital-to-hospital competition in limited market areas result in relatively low commercial payment to cost ratios (good for payers, challenging for hospitals), and affects service offerings. Because physician incomes have been falling, they have been developing services to generate facility fees and thus are competing with hospitals. This was raised by several hospitals as a growing source of financial challenges.
- 19.** Many of the smaller hospitals in Connecticut are located in towns and communities in relatively close proximity to one another. Residents of these towns view the communities as distinctly separate, and have strong affinities and demonstrate support for their local hospitals. Wealthier communities in Connecticut provide significant amounts of financial support to their hospitals.

- 20.** Many of Connecticut's hospitals implemented integrated delivery system strategies and structures during the last few years. The strategies were established based on generally accepted views regarding how the health care system would evolve and adopt risk-sharing between health insurers and hospitals and their medical staffs. Unfortunately, many of these initiatives failed, hospitals incurred substantial losses, and now are divesting acquired physician practices.
- 21.** Connecticut's hospitals have established and operate a wide range of affiliate entities. These enterprises share the same parent corporation as their affiliated hospital, and include foundations, home health agencies, collection agencies, real estate firms, other patient care programs including rehabilitation and skilled nursing, self-insurance and malpractice firms, and physician/hospital organizations (PHOs), established for joint managed care contracting. The state's hospitals transferred over \$50 million to these affiliates in 1998 and 1999.
- 22.** Connecticut hospitals have implemented sophisticated information systems for billing, accounting, and clinical management, and additional investments are planned across the state. Y2K remediation was costly, but most hospitals believe that complying with the patient confidentiality requirements of HIPAA will require even more resources, perhaps on the order of 2 to 3 times. New systems innovations will include Internet web sites to communicate with payers, patients, and consumers, and clinical systems increasingly will incorporate "decision rules" to help reduce medical errors and variation in medical practice, and thus improve the quality of care. A major problem with hospital IT systems is that "best of breed" purchasing results in a series of incompatible systems that do not easily interface across levels of care and between clinical and non-clinical areas.
- 23.** Federal and state regulations affect hospital operations, performance, and cost while also providing important health and safety benefits. Hospitals believe that Connecticut's CON laws are beneficial, but should be updated and applied to non-hospital providers that develop competing services. Connecticut's business and health insurance community prefer to allow competition and market forces to prevail.
- 24.** Management is important to hospital performance. Hospital management teams develop and implement strategy and cost containment initiatives, establish important relationships with physicians and the state, monitor and seek to improve patient satisfaction, negotiate with managed care organizations for payment rates, and set the tone for competition among facilities. Several hospitals have experienced management turnover, leading to special challenges in addressing the changing reimbursement environment. The change from operating in a regulated environment to a competitive environment is particularly challenging.
- 25.** Non-operating income has become a particularly important resource for Connecticut and other U.S. hospitals. This income, derived primarily from investment gains and philanthropy, offset operating losses in 1999, allowing the state's hospitals to report a small positive total margin that year. Six hospitals have cash and



endowment reserves exceeding six months' of total operating expenses. Investment returns may fall in the future as the capital markets retreat from the high returns provided in recent years.

- 26.** Hospitals are capital-intensive, requiring constant investment in buildings, equipment, and information systems. These investments are required for hospitals to comply with licensing standards, to remain competitive, and to bring new services to their communities. Three of the four primary sources of capital for the state's hospitals increasingly are constrained: operating income, debt, and investment gains. Philanthropy continues to be provided particularly for hospitals located in wealthier communities. The Connecticut Health and Educational Facilities Authority has expressed concern about the impact of declining financial performance on current bond indebtedness. Unless financial performance improves, future capital formation will be at risk.
- 27.** Connecticut is well below the U.S. average in terms of hospitals, beds, admissions, and inpatient days per 1,000 population, but has more hospitals per square mile. Traditional measures of hospital capacity may not be sufficient to judge the adequacy of the supply of Connecticut's hospitals.
- 28.** Connecticut hospitals appear to be relatively efficient, after adjusting for patient acuity (case-mix), prevailing wage levels, medical education costs, and other variables recognized by the Medicare reimbursement system. Comparative efficiency improved significantly between 1995 and 1998. Without adjusting for medical education, Connecticut hospitals are more expensive than those of other states, reflecting Connecticut's significant commitment to teaching and research.
- 29.** A recent study indicates that Connecticut hospitals rank 9th in the nation in quality of care. Relatively high quality and comparable efficiency suggest that Connecticut's consumers receive good value from the state's hospitals. This may relate to the role of teaching in the state.
- 30.** The future of Connecticut's hospitals will be determined by several "turning point" issues, including a resurgence of hospital utilization, possible refinements to Medicare payment policy, the ability of hospitals to negotiate managed care payments that exceed cost inflation, the nursing shortage, medical technology and pharmaceutical developments, and the evolving role of consumers in the health care system.
- 31.** With the repeal of the Gross Earnings Tax, Connecticut hospitals appear able to achieve break-even operating margins during fiscal year 2001. Restoring margins to the 2.0 to 3.0 percent level will require successful negotiation with health insurers, increased Medicaid payment, and continued cost containment. This level of performance will be important to maintaining access to capital.

## POLICY RECOMMENDATIONS

The study analyses suggest the following recommendations.

- 1.** The State should consider new hospital licensure categories so that distressed facilities can be licensed without meeting the full requirements of general acute care hospitals.
- 2.** The Certificate of Need standards and processes require adjustment, but not elimination. OHCA should concentrate on establishing demand, supply, and utilization benchmarks for specific service areas affected by emerging technologies. OHCA also should establish standards for freestanding facilities that are performing services that currently also are performed in hospitals.
- 3.** OHCA should evaluate additional data elements as it measures hospital performance and access issues, including ambulatory care statistics and public health indicators. Monitoring ambulatory care-sensitive discharges, for example, can identify potential access issues for the state's residents.
- 4.** Medicaid payment policies should be adjusted to decrease the differential between costs and payments for Medicaid patients. Rebasement TEFRA rates or replacing them with a DRG-based system would improve their alignment with current hospital acuity levels.
- 5.** The nursing shortage creates risks for Connecticut's health care system. The State should play a role in ensuring an adequate supply of nurses for Connecticut's hospitals.
- 6.** The State should develop mechanisms to improve coordination of health care policy, regulation, and payment. OHCA, the Department of Public Health, the Department of Social Services, the Office of Policy and Management, the Department of Mental Health and Addiction Services, and the Department of Children and Families all play critical roles within the state health system.
- 7.** OHCA and the State should develop an updated regional health care plan that identifies long term goals and priorities for hospital and other services capacity.
- 8.** The State should consider hospital reporting of community benefit services (similar to S.B. 697 in California) to monitor provision of essential community programs.
- 9.** Based on variables identified in this study, OHCA should establish criteria and benchmarks that can be utilized to monitor hospital performance, and identify those hospitals in serious financial distress that may require State intervention and regional planning. Hospitals should report when they are in technical default of loan covenants to provide an "early warning system" for regional planning.

- 10.** Connecticut has a relatively high commitment to physician education, providing many benefits but also adding to hospital operating costs. Studies of Connecticut's hospital costs should adjust for these expenses.
- 11.** The Department of Insurance recently issued new guidelines regarding the timeliness of payments by health insurers to health care providers. In its role to monitor hospital performance, OHCA should monitor the implementation and results of these guidelines.
- 12.** The State should undertake a comprehensive evaluation of hospital health and safety regulation, evaluating areas of duplication, excessive cost, and other problems.
- 13.** Many Connecticut hospitals have established systems with numerous affiliate entities. OHCA should study further the role of hospital affiliates in the performance of health care systems and hospitals.
- 14.** OHCA should study recent hospital closures to understand potential impacts on adjacent communities. The study should evaluate patient migration patterns and consumer satisfaction to learn helpful insights for reviewing potential future closures.
- 15.** Many hospitals do not have the capacity to evaluate and make prudent judgments regarding purchases of new technologies. The State or Connecticut Hospital Association should play a role in assisting hospitals with this endeavor.
- 16.** OHCA should evaluate the new patient care delivery models that have been implemented in the state to understand their effects on patient care access and quality.
- 17.** The State should consider refining the Uncompensated Care Program to improve its equity among hospitals, and to simplify and update its process.

## NOTES

<sup>1</sup>This topic is explored in more detail in the Health Insurance Benefits section.

<sup>2</sup>[www.dmhas.state.ct.us/blueribbonreport.htm](http://www.dmhas.state.ct.us/blueribbonreport.htm).

<sup>3</sup>OHCA Hospital Budget System.

<sup>4</sup>Based on the OHCA Hospital Budget System. Net revenue approximates what hospitals actually collect from payers, versus “gross charges” which are higher.

<sup>5</sup>The Lewin Group report *The Balanced Budget Act and Hospitals: The Dollars and Cents of Medicare Payment Cuts*, May 1999.

<sup>6</sup>Health Care Financing Administration.

<sup>7</sup>Health Care Financing Administration.

<sup>8</sup>*Independent Analysis of the Fairness and Equity of Connecticut Medicaid Hospital Reimbursement*, The Lewin Group, February 2000.

<sup>9</sup>*Ibid.* Medicaid expenditures per beneficiary in 1997 were \$5,957. Other New England states spent \$6,025.

<sup>10</sup>Temporary Assistance for Needy Families.

<sup>11</sup>OHCA Hospital Study White Paper, *Hospital Health Care Payment Mechanisms*.

<sup>12</sup>Per HCFA, the actual “market basket” inflation rate for hospital costs averaged 3.03 percent from 1990 to 1999.

<sup>13</sup>Impact of an Aging Registered Nurse Workforce, *Journal of the American Medical Association*, June 14, 2000.

<sup>14</sup>Average age of plant is an accounting measure based on the following formula: accumulated depreciation divided by depreciation expense.

<sup>15</sup>Defined as Total Operating Revenue minus Total Operating Expenses as reported in Audited Financial Statements.

<sup>16</sup>Unless otherwise specified, data in this chapter are for fiscal years ending on September 30. Fiscal years for all hospitals in Connecticut begin October 1 and end September 30.

<sup>17</sup>Defined as Operating Income (or Losses) divided by Total Operating Revenue.

<sup>18</sup>Defined as the Excess (Deficiency) of Revenues over Expenses divided by Total Operating Revenue and Non- Operating Income.

<sup>19</sup>CHIPS.

<sup>20</sup>Defined as the Excess (Deficiency) of Revenues over Expenses as reported in Audited Financial Statements.

<sup>21</sup>Defined as cash and investments divided by total operating expenses times 365.

<sup>22</sup>Defined as non-government net patient revenue divided by estimated costs generated by non-government patients.

<sup>23</sup>Bond covenants specify financial ratios and other requirements that must be met to avoid default.

<sup>24</sup>This index compares actual cost for Medicare inpatients to costs predicted by The Lewin Group’s efficiency model. A ratio less than 1.0 (actual / predicted) indicates that hospitals are relatively efficient.

<sup>25</sup>Adjusted Day is defined as total inpatient days reported by the hospitals divided by the ratio of total charges divided by inpatient charges. The measure is designed to reflect the “total utilization” of a hospital in one statistic.

<sup>26</sup>Adjusted Patient Days are calculated by taking total inpatient days times the ratio of total gross patient charges divided by gross inpatient charges.

<sup>27</sup>Quality of Medical Care Delivered to Medicare Beneficiaries, A Profile at State and National Levels, *Journal of the American Medical Association*, October 4, 2000 – Vol 284, No. 13.

<sup>28</sup>*Ibid.*

<sup>29</sup>Based on The Lewin Group’s analysis of the BBA and BBRA conducted for the American Hospital Association.